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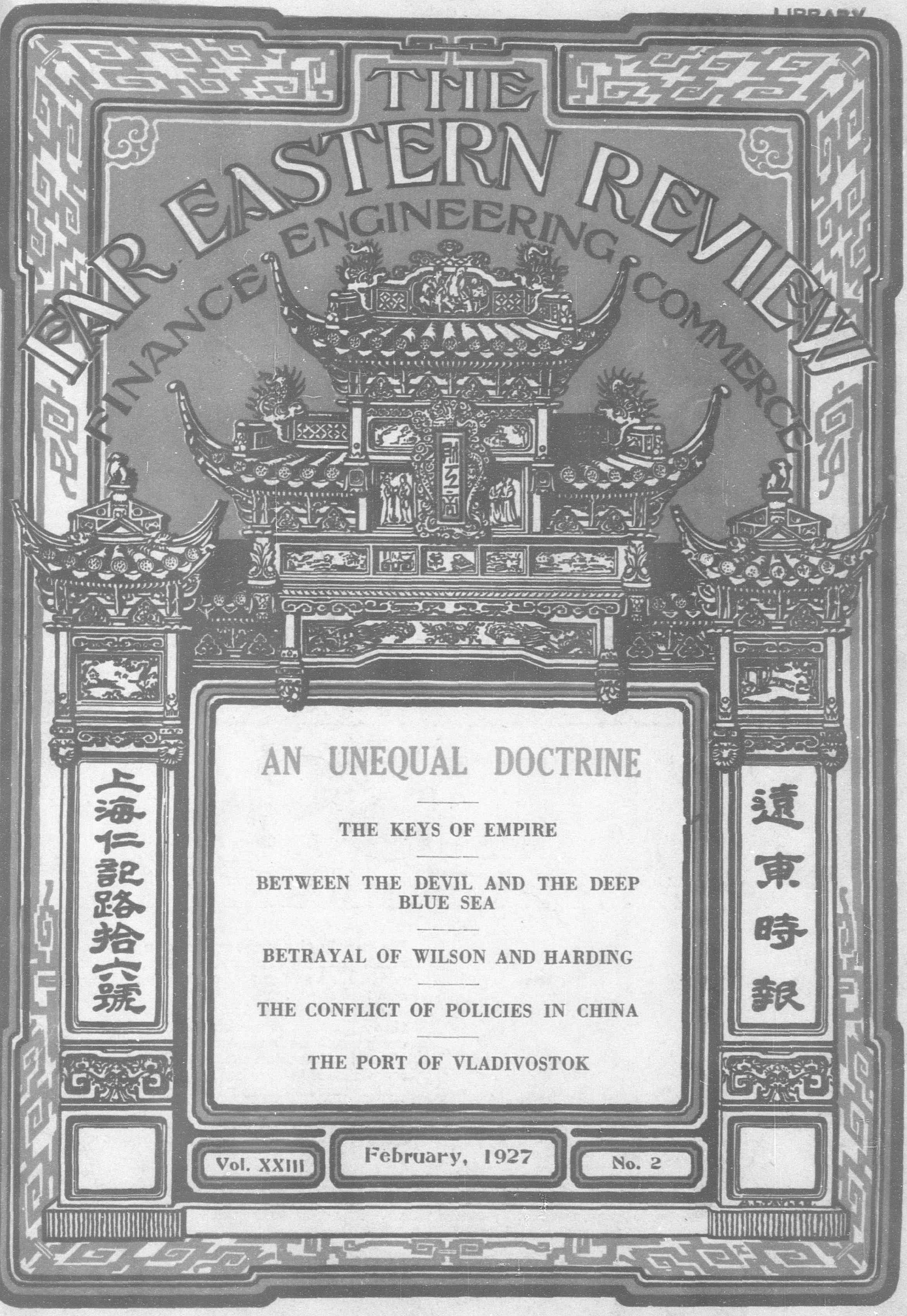

THE FAR EASTERN REVIEW

FINANCE ENGINEERING COMMERCE

上海仁記路拾六號

遠東時報

AN UNEQUAL DOCTRINE

THE KEYS OF EMPIRE

BETWEEN THE DEVIL AND THE DEEP BLUE SEA

BETRAYAL OF WILSON AND HARDING

THE CONFLICT OF POLICIES IN CHINA

THE PORT OF VLADIVOSTOK

Vol. XXIII February, 1927 No. 2

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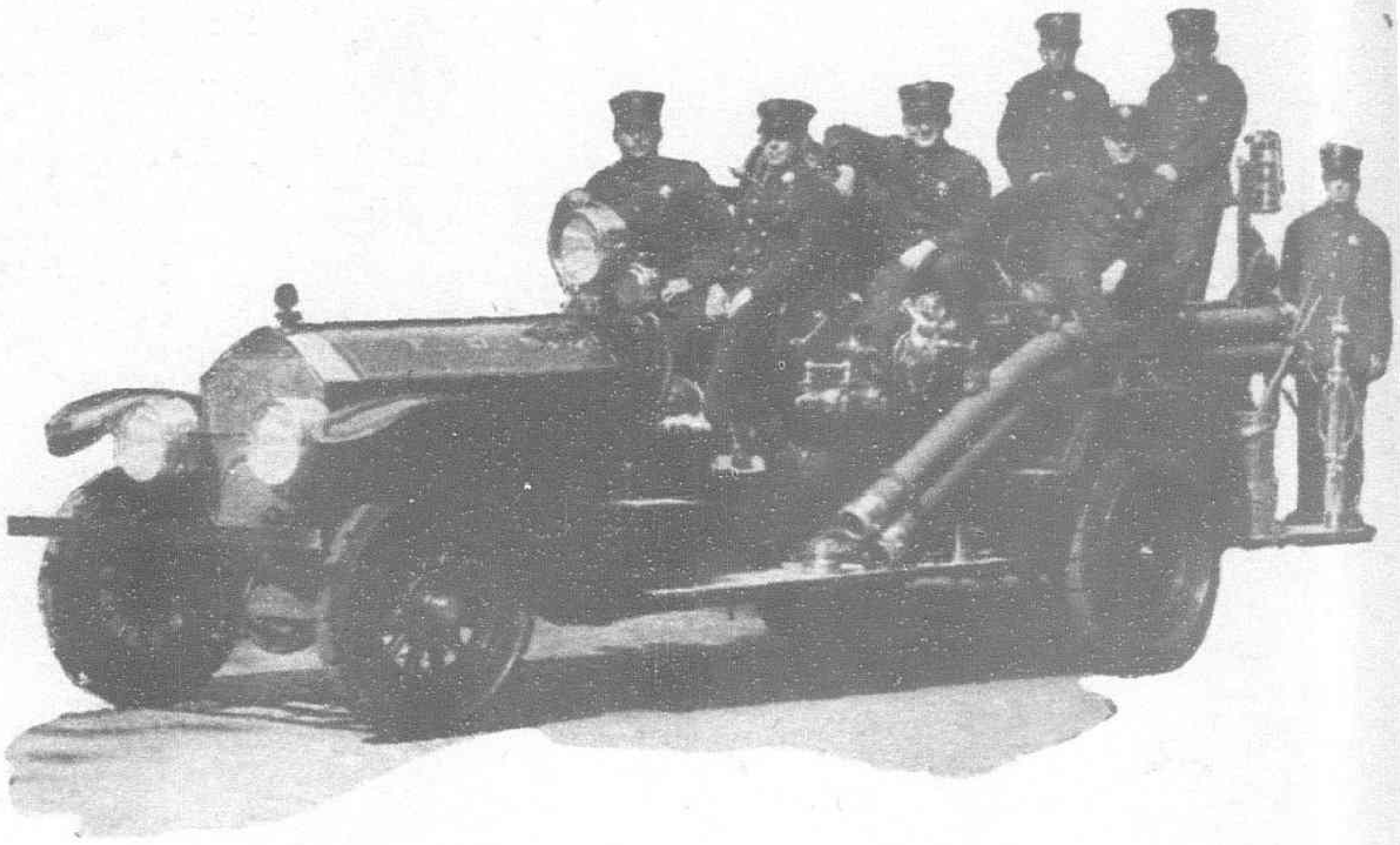

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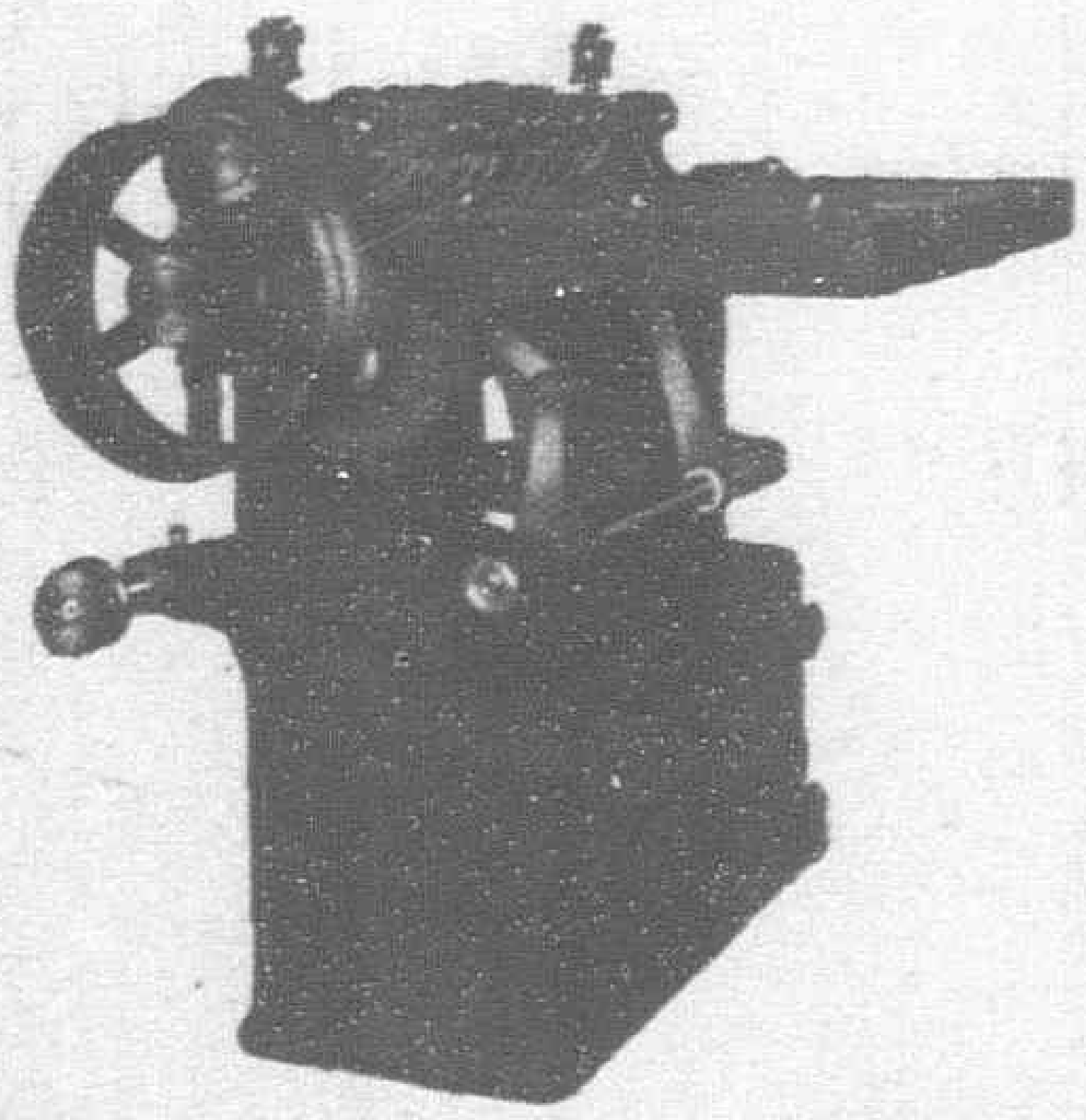

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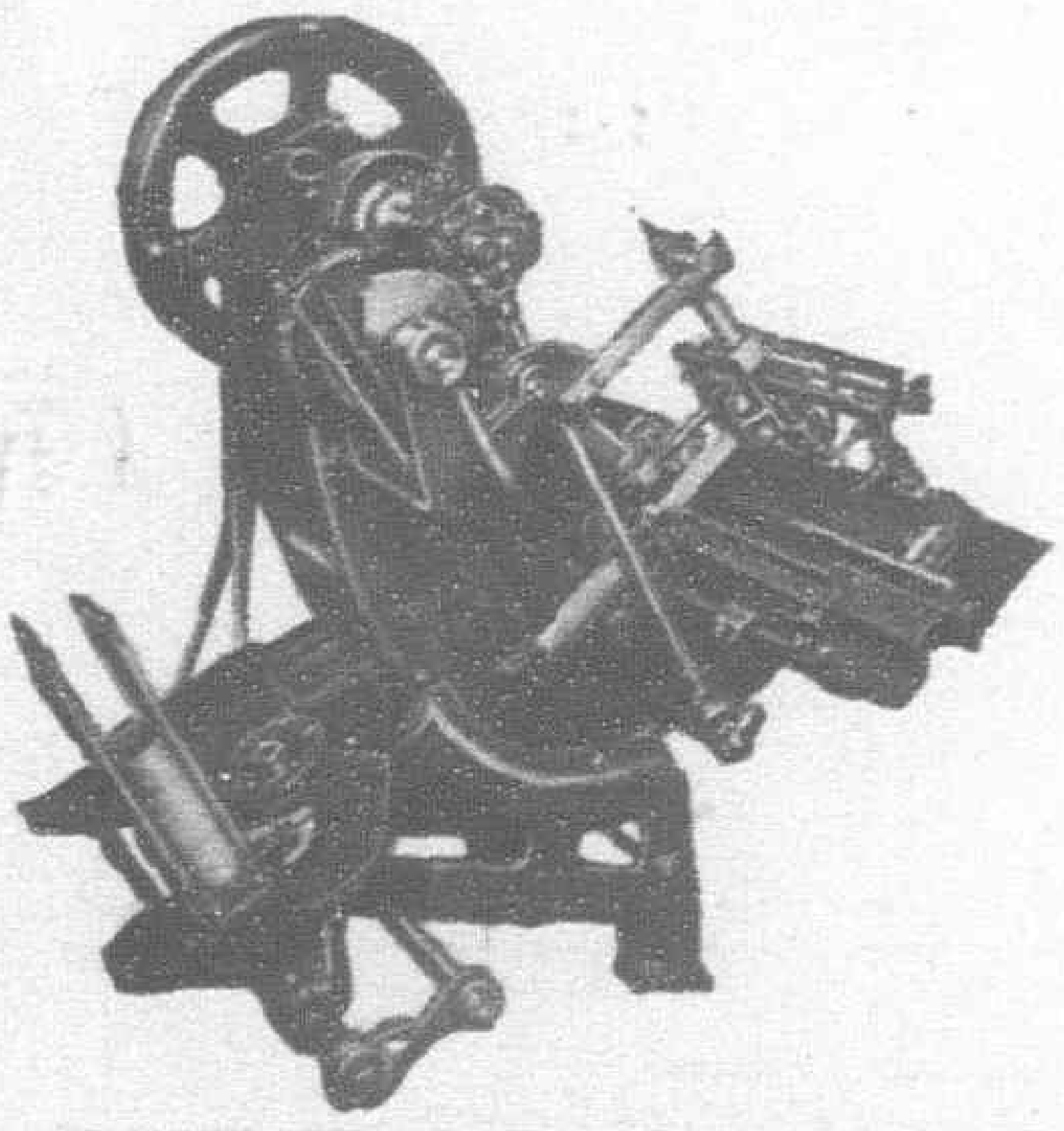

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The Far Eastern Review

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An Unequal Doctrine

The British Price in China

By George Bronson Rea

IN the May 1920 number of THE FAR EASTERN REVIEW appeared an article written from London, entitled "An Unequal Doctrine," describing how Anglo-American co-operation in China worked out in practice. This article drew attention to the wide gulf separating British and Japanese interests in China from those of the United States; the former based upon investments and trade and the other upon philanthropies. Under the leadership conferred upon America by the Washington Conference treaties, Great Britain and Japan had practically surrendered their right to individual action in China, to the point where they were forced to watch calmly the destruction of vast interests created by their initiative and investments without raising a hand to protect themselves. In that article we said;

"Anglo-American co-operation which expected to accomplish great things towards progress and development in China has simmered down to the subordination of British policy to the educational and missionary interests of America, with the possible sacrifice of trading rights to the higher principles involved in the surrender of extraterritoriality and those other safeguards to foreign residents now deemed superfluous for the protection of the missionary. Great Britain (and Japan) with their important interests and investments in China has handed over the leadership to America, whose chief concern in that country is to maintain it open as a field for the distribution of its charities. While Britain and Japan are annually losing vast sums in China, America proceeds cheerfully ahead contributing about $15,000,000 gold a year for educational and missionary purposes in that country and to maintain an army of uplifters who outnumber and outvote the trading community two to one. Under these conditions, American leadership in China means the eventual surrender of British commercial interests to emotional hysteria." In conclusion, we asked; "We, who live in the Far East, may well ponder over these things and ask ourselves; who started all this tommy-rot about Anglo-American co-operation in China, anyhow? Who led the British into the position where they now find themselves trailing along with the international crowd behind a leadership whose sole aim is the uplifting of the Chinese at the expense of those whose loans and investments have made her what she is to-day?".

We have reason to believe that that article submitted in London for the comment of the head of the most important British firm in China, materially assisted towards shaping the new British policy for the month following, the British Foreign Office sent a memorandum to the American Ambassador in London advocating relaxation of foreign control over China and, in effect, paving the way for the subsequent British Note of December 18. The clash of foreign interests in China as represented between Great Britain, Japan and the United States simmers down to whether trading interests are to be permanently subordinated to philanthrophy; whether foreign capital is to be employed for the development of China's resources or contributed for the upkeep of schools, colleges, hospitals, missions, Y.M.C.A.'s and other forms of Christian uplift and missionary endeavor.

Since that article was written, the commercial situation in China has gone from bad to worse until the Canton Government is now entrenched in the heart of the Yangtsze Valley with Hankow as its capital, from where it is redoubling its efforts to destroy British interests and trade. It is Great Britain's turn to feel the weight of Chinese animosity, and this is no time for Americans to chuckle over her misfortunes. We are largely responsible for creating the situation which has placed her in such a position, and we must not forget that it will be our turn next. True, however, to our traditional outlook on Chinese affairs, Americans still refuse to grasp the essential difference between the policies of countries whose initiative and investments have developed China and created the trade in which we participate so profitably, and a purely sentimental outlook which confines its activities to the expenditure of huge sums for unproductive missionary work.

Britain's Major Interest Trade

The Extraterritoriality Report released in November by the State Department, provided the American press with the opportunity to break out in a Christmas carol over our traditional Chinese policy, taking unto ourselves all the credit for saving China against the encroachments of foreign powers and paving the way for the full recognition of her sovereign rights. Before the least pean of self-praise had died away, a clarion note from London drowned out the American solo and rang up the curtain on a new act in the long-drawn out Chinese comic opera. The new British note in the Celestial concert has naturally stirred up considerable resentment amongst those whose star part is being crabbed. It is difficult for Americans to understand that Britain's main interest in China is trade and that when this is endangered to the point where it faces utter destruction, it is time for Downing Street to take some radical step to save the pieces. America is getting away with the kudos attached to a leadership under which the British have been handicapped from taking any individual action to defend their rights. That the British Government has awakened at last and assumed the leadership in a policy America has laid down as the corner stone of foreign diplomacy with China, is evidence that it is determined to save its own interests from being wiped out while some other nation gets the credit for saving China.

The British Note may be a recognition of an accomplished fact, but it is better to acknowledge defeat in a straightforward manner and restore some of their lost prestige than await complete ruin and bankruptcy. After all is said and done, the British have simply demanded the immediate application of principles laid down at Washington, rather than be the Goat in an anti-foreign campaign resulting from policies which all other nations have equally agreed to follow. Somebody had to take the lead in breaking away from the old order of things. Britain, the heaviest loser, is taking the same steps to protect herself as Americans would do if placed in the same embarassing position. We are not in sympathy with the general tenor of the American press, which cannot see the realities of the situation for the fog of sentiment which invariably conceals the truth about China.

The Philadelphia Public Ledger says that Britain's present tariff proposals are in large measure a simple recognition of an accomplished fact.

"In plain words, Great Britain, whose commercial and other interests in China have been vitally threatened by the nationalistic movement, is now ready to grant something to China which has already been taken. The honeyed words which mark the reversal of British policy cannot conceal the admission that Great Britain, for once, has been outplayed."

The New York Journal of Commerce says the same thing;

"Acceptance of the inevitable sometimes comes too late to yield any practical benefits to those who have ceased to fight against it. This may well prove to be the case with the British in China, and the other Powers who usually follow their lead. The memorandum—would have meant more had it come a little earlier in the struggle. It is less impressive now that the Chinese have themselves proceeded to effect a relaxation of foreign control and have discovered that force can be resisted by counter violence. The British *ex post facto* declaration of belief in Chinese nationalism may amuse the victorious Cantonese but it will hardly flatter or cause them to abate their demands. . . . What a pity that concessions have been delayed until they are devoid of all generosity and merely serve to camouflage recognition of a state of affairs that has been so blindly and stubbornly denied by the interested powers."

The Brooklyn Standard-Union says;

For the British Foreign Office having played a losing game in China, it is perfectly proper to admit that the game is lost and to abandon it. "Mr. Chamberlain's change of heart did not come until Wu Pei-fu and Chang Tso-lin were thoroughly routed, until the British commercial organizations clamored for a change of policy so the Chinese may be induced to lift the anti-British boycott, and not until the South Chinese Government had removed its seat from Canton to Wuchang. It is hardly likely that the Chinese will be greatly impressed by Sir Austen Chamberlain's memorandum to Washington, though they may derive amusement from his belated discovery that their nationalistic spirit was not "made in Moscow" as heretofore held, but is genuine. Among the Cantonese officials are some highly educated men, well versed in English language and literature. Perhaps one or another of them, remembering the verse about the monk and the devil, will joke about the "foreign devil" who "a monk would be."

The Los Angeles Times, commenting on the British Note, says "Thrift, Thrift, Horatio! and intimates that the change in British policy towards China is on the same lines that influenced them to recognize Soviet Russia. British trade with China has been so battered about of late by boycotts and pirates that to regain it on any terms seems to be the main concern of the British at present. *The Los Angeles Times* goes further and sees in the situation an attempt to divide China into a northern and southern sphere in which Japan will dominate the one and Great Britain the other, and while such a possibility would result in a strong attempt to eliminate the Soviet influence in China, and so prove beneficial to the United States, the picture is not a pleasant one for America to contemplate.

The same explanation of the British Note is seen by *The Wall Street Journal*, which says;

"From a certain point of view it will be urged that the newly declared British position in Chinese affairs is of a piece with British recognition of Soviet government in Russia, a step which Washington has correctly refused to follow London. A closer examination of Mr. Chamberlain's reasoning will justify our agreement with the implication of the British memorandum that China and Russia are distinct cases.

On the other hand, *The New York World* sees in the British Note a generous policy towards China, commending it as good sense.

"British diplomacy in the Far East is shrewd. The day when an illiberal policy will work is gone forever, and the British are realist enough to lead in pointing out the fact."

The New York Times inclines to the belief that it is not probable that the British Foreign Office "was overcome by the Christmas spirit in announcing its new attitude towards China. It would be hard to imagine a policy more patient and forbearing than that which the British Government has now marked out for itself. Even if the other interested nations had not consented in advance to follow the same line, they would now be compelled to do so out of very shame."

The New York Herald-Tribune, fails to realize perhaps that the Chinese have more to say in regard to the internal status of their country than any foreign power, and that any attempt to coerce them into maintaining administrative integrity is as much an intervention in their affairs as our present program in the Caribbean and Central America. *The Herald-Tribune* says that "in the eyes of the British, South China has become more important than the fiction of a Chinese nation installed in the old imperial capital. Great Britain evidently has decided to do business with the new regional government in control of the south."

"But if Peking is to fade out of the picture the traditional diplomacy of the foreign powers in China is wrecked. The Washington conference treaties were concluded with China as whole, supposed to be represented by Peking's spokesmen. They rest on the assumption of a united Chinese republic, able to fulfill international obligations. . . . . The British Government now goes a long distance from its former position by favoring radical concessions to the Chinese. But it seems to be also more or less reconciled to China's political partition—not amongst the powers, perhaps, but at least among Chinese military leaders and regional factions. Tariffs and extraterritoriality are of little importance if the present republic falls apart. Old treaty priveleges would shrivel up. A new era of penetration might begin, with Great Britain operating in the south and Japan in the north. Chinese nationality would disappear in scrambles for local power.

"That eventuality is the most threatening thing in China to-day. America's Chinese policy stands for nationality and territorial integrity. It will continue to stand for them. Great Britain's real interests in China are also bound up with the preservation of China's age-long status."

The Ostrich View

All quite true, but *The Herald-Tribune* conveniently overlooks the fact that America has already stood for the dismemberment of China. We did not even file a protest when Russia practically annexed Mongolia and then brought Turkestan under her sphere of influence. America's paper doctrine of the inviolability of China is only emphasized whenever it appears that Japan may gain some advantage. Because of this foolish and inexplicable trend to our diplomacy, we have created a situation where Russia now has a strangle hold upon China carrying forward her campaign against Great Britain behind the screen of the Kuomintang armies. Had we permitted Japan and China to work out their own problems six years ago, there would have been no Russian menace in China to-day. The Soviet influence would have been confined to territories west of Baikal, and the British would not now be driven to extreme measures in order to preserve their trade. Anglo-American interest in the preservation of China's integrity has been confined exclusively to block Japan Britain is now paying the consequences. It will be America's turn next.

America's Chinese policy, to which all the other powers have subscribed, is as much to blame for the present situation as the influence of Moscow. No outside nation can dictate how another country, torn asunder by civil warfare, shall manage its own affairs. As a matter of pure expediency and a determination to prevent the party of Sun Yat-sen from dominating the government of China, the powers have persisted in recognizing the puppets of the Northern militarists, installed in Peking. Dr. Sun Yat-sen and his lieutenants pleaded time and again for recognition. He maintained a personal representative in Washington and flooded the American press with arguments which should have convinced us he was fighting for clean, honest, government. Under Sun's regime, Canton was transformed from the most unsanitary city of China into the most up-to-date. Graft and corruption gave way to honest administration. Sun designed railways, port works, public improvements, tramways, and other utilities and only the barrier set up by the consortium prevented him from financing and carrying into effect schemes which would have revolutionized the provinces south of the Yangtsze.

Wilson had the right idea about China when he refused to extend support to the American Group in the Reorganization Loan in 1913. This loan not only impaired the administrative independence of the Chinese Government, but provided Yuan Shih-kai with the funds to dissolve parliament destroy the republic, and crown himself as Empror. That loan killed the Republic of

China and handed the country over to the military rabble which for fourteen years has defied all efforts to establish respect for civil authority. Wilson adhered to a principle in 1913 but surrendered his ideals when confronted with the fact that American capital could participate in the development of Chinese railways only through co-operation with the other powers who held all the principal concessions.

Dr. Sun Yat-sen stood for clean government; for parliamentary control over the army, navy and the finances. He professed the ideals that lay at the very foundation of Anglo-American liberties and institutions. For years, he and his followers pleaded for a chance to put their ideals into practice through a partial or regional recognition that would have enabled them unmolested to carry through their program of reforms. Their plea was answered at all times by a firm refusal on the part of the Powers to depart from the traditional policy which recognizes Peking as the capital of China. To this, was added a chorus of Anglo-American approval lauding the declaration of Wu Pei-fu to carry on his campaign until China was united by the sword. Canton begged and prayed for unification. Its leaders asked for a conference to bring this about it. All the other military chiefs expressed a willingness to attend but Wu Pei-fu, who again announced with the plaudits of the Anglo-American press, his determination not to rest until he had forced Sun to sue for peace. Not until Sun Yat-sen realized that there was no hope for sympathy or support from the liberal powers of the world, did he accept the outstretched hand of Moscow. Dr. Sun had no faith in the old Russia, in fact, he was ready in 1913 to head an army to recapture Mongolia and drive the Russians from Chinese soil. He considered Russia as China's most implacable foe. Soviet Russia surrendered its unequal treaties with China and Sun accepted its friendly co-operation to force the other powers to do likewise.

Sun Yat-sen is dead. His spirit lives. Canton has pushed its victories to the banks of the Yangtsze. South China is now dominated by the Kuomintang forces and if they rest here and dig themselves in to hold what they have got, the disorganized Northern armies will find it difficult to dislodge them. British trade with China is largely centered in the South. Hypnotized by propagandists associated with the Northern military leaders, British opinion in the north has been instrumental in thwarting any program for co-operation between Hongkong and Canton. The unexpected has now happened. The force of circumstances has brought to naught the anti-Sun campaign which has for years kept Hongkong and Canton apart. The British Government has at last realized its mistake and thrown overboard the pilots which have steered the bark of British trade in China on to the rocks of disaster.

The Keys of Empire

Britain Prepares Against the Day of Filipino Independence

By George Bronson Rea

India is to have a navy. Winding up its sessions in London on November 23, the Imperial Conference passed resolutions approving the development of the Singapore Base *in order to facilitate the free movements of the Empire fleets* and congratulated the Government of India on its decision to build a navy. The Conference applauded the Premier's speech on inter-imperial relations which amongst other things, denied to India a dominion-status. British India and the congery of quasi-independent Native States will remain vassals of the Federation of British Dominions, subordinate to six mistresses, instead of one. It is well to remember, however, that India sits and votes in the League of Nations as a sovereign state, free to exercise its independence in minor world problems but subject to the dictation of its overlords where vital British and Imperial policies are concerned. The Indian navy, manned by Lascars and officered by British experts, adds just so many more war-ships to the quota assigned to Great Britain under the Washington treaty.

Singapore will become the master-base of one major and two minor navies; independent in peace but united in war. The British, Australian, Indian, and perhaps New Zealand fighting fleet, operating from the " Gibraltar of the East " and munitioned from the great Indian steel works at Jamshedpur, will, in time, dominate the Pacific and Indian Oceans. All arguments advanced to justify the ten million pounds expenditure for the construction of the Singapore Base indicate that the hypothetical enemy is Japan. Ponder over this. Immediately after Japan was relegated to the status of a second-rate naval power by the Arms Limitation Conference, the trusted ally of Great Britain became a meance to the Empire whose security for twenty years had been guaranteed by its navy. For two decades, the Japanese fleets in Asiatic waters under the watchful supervision of British expert advisers, enabled Great Britain to concentrate her naval strength in the North Sea. When war became unavoidable, the Grand fleet with all its first-line fighting units was mobilized in Home waters, ready for the conflict. During the war, the Japanese navy patrolled the Mediterrenean and the All-Red-Route to India, Australia and China. Dominions and Indian armies and supplies for the fronts in Flanders, Gallipoli, Salonika, Egypt, Palestine and Mesopatamia passed in safety over the sealanes guarded by the war-ships of the Rising Sun. Yet the ink had hardly dried on the Washington treaties when the faithful and tried ally of Great Britain was transformed into an imaginary enemy against whom it became urgently necessary to construct the most powerful naval base in Asia!

The Philippines stand as a buffer between Japan and the British possessions in India, Malaya and the Pacific; a guarantee that so long as they remain under American protection, their neutrality must be respected. Independence without the power to preserve neutrality is a perilous position. Should the United States withdraw her guarantee by conceding independence to the Filipinos, the strategic situation in the Pacific would at once become loaded with dynamite, far more dangerous to world peace than the squabbles of Europe. The Philippines are the Keys to World Empire. If possession of these keys ever passes out of the hands of the United States they will be taken over and retained by some other Power who will know how to use them for its own profit.

The future of the Philippines is uncertain. Great Britain cannot afford to take chances. Neither can Japan contemplate with unconcern any further extension of European influence in Far Eastern waters. Within easy steaming distance of Mindanao and the Sulu Group (or any one of the thousand Philippine islands suitable as submarine bases) lies the Rubber Empire of the World, a source of unlimited wealth upon which Great Britain is now drawing and will continue to draw to pay her war-debts to the United States. Eliminating the bogey of an Asiatic menace to Australia or India, these immensely rich possessions must be adequately protected against any possible contingency.

Has it ever occurred to thinking Americans that the hypothetical enemy who might conceivably covet possession of Britain's Malayan Rubber Empire, is their own country? Might not the Singapore Base be directed against the United States? It is well to remember that notwithstanding the platitudinous bunk about Anglo-American-friendship, and " Hands-Across-the-Sea," the British place no implicit trust in friendship. Britain retains her naval bases at Halifax, at Esquimault; she has Jamaica, Bermuda, the Bahamas, Barbadoes, St. Kitts, Antigua, Belize and other strategic footholds in the heart of the American Mediterrenean. Her financiers have even wangled a concession out of the Panaman Government which gives them extraordinary rights in a vast territory contiguous to the Canal Zone, a situation pregnant with such complications, which, to offset the American Government has been compelled in self-defense, to negotiate a hard and fast treaty of alliance with Panama which automatically brings her in on our side in the event of hostilities between ourselves and any other Power. America takes no chances in the Caribbean.

Leaving Halifax and Esquimault out of the picture, not one of Britain's colonial possessions in America has any great economic value. Does any American believe that the British Government would hand over to the United States any of these islands as a part payment of its war debt to this country ? Suggest it officially, if we want to know exactly what Britain thinks about these strategic keys to the American coast. The only possible enemy they could be employed against is the United States. As in the Caribbean, so in the Western Pacific.

For propaganda purposes it suits Britain's book to encourage the belief that Singapore is aimed at Japan. Commonsense will tell us however, that as long as the war-debt remains a subject of recurrent controversy, Singapore is just as logically aimed at the country which might covet and profit by seizing her Rubber Empire. On the other hand, the uncertainty of American permanence in the Philippines, forces Great Britain to prepare against the contingency of Filipino independence. Singapore automatically supersedes Gibraltar as the Key to her Asiatic and Pacific Empires.

In April, 1921, the "Far Eastern Review" published the following:

QUO VADIS

With these facts before us it is well that Americans should stop and fit them into the general Far Eastern situation and ask themselves fairly where they are going. We crossed the Pacific and assumed the gigantic task of guaranteeing the integrity of China, as part of our "open door" policy, at a time when a secret alliance existed between China and Russia directed against Japan. We have gone further and extended the doctrine to cover Mongolia and Manchruia. We have injected ourselves into the centre of the Asiatic cockpit where the great racial problem must eventually be solved and now stand between the two great antagonists. We have attempted to preserve the integrity of Russia at a time when her red armies are crushing out the independence of other peoples who lie in the path of their forward march towards the traditional Muscovite goal in India. We have excluded the Mongolian from our shores and extended the doctrine to the Philippines, thus forcing him into Asia to seek the future of his race. We then come to the aid and comfort of Russia in order that she may perpetuate her hold upon lands stolen from the yellow man and now required for his expansion. We say to Japan that, she cannot be permitted to defend herself in Inner Mongolia against a "menace from the direction of Urga," yet we have the most unimpeachable, first-hand evidence that our interest in these regions dates from our acquisition of a railway contract that was designed to compel Japan to sell out the South Manchuria Railway, or failing in this, to make her position in this territory untenable.

We have done our best to internationalize the Chinese Eastern Railway and induce Japan to evacuate Eastern Siberia. In the Philippines we stand as the buffer of empire, the guardian to Britain's position in India, the barrier against the expansion of the Mongolian race southwards towards Australia, the sponsor for the security of Japan's position in the event of another upheaval. With Singapore transformed into the Gibraltar of the East, the Philippines becomes the guardian of the other passages between the Indian and Pacific Oceans. The islands are keys to empire. The keeper of the keys must inspire respect and confidence and give proof of his ability to hold them. The fate of strong nations is in his keeping. Can the Filipino discharge his obligations to his neighbors? If so, he can remain the keeper of the keys. If he fails, the keys will be taken from him. If America is to continue to apply policies and doctrines in Eastern Asia and to insist upon standing between Japan and a solution to her vital and pressing problems, then the keys must remain in our possession, and we must, as Mr. Daniels recently reminded us, have a navy large enough to "lick all creation." If, on the other hand, we will be content to have this racial problem shifted from our shoulders on to those who created the issue, and permit Japan to solve her own problems in her own way, we can safely hand over the keys and get out of the islands as quickly as we can. As long as we hold the Philippines, we must face the necessity of maintaining a huge fleet, and even then, their possession will always be a source of weakness to us. We have insisted upon having a voice in these complex Asiatic problems, and our friends in Europe have quietly "slipped the buck over to us." Will we hold it and continue to play against a stacked deck, or will we call for a new deal with the cards face up on the table ?

America's naval standard is supposed to be on an equality with Great Britain and forty percent stronger than Japan. The facts as they stand to-day are, that all of England's capital ships can outshoot and outspeed our eight deficient battle-ships. We could remedy this weakness in part by elevating our guns, but England says that this would violate the Arms Limitation Agreement. We acknowledge the justice of the protest and cheerfully accept a position of inferiority.

By 1928, Great Britain will have 57 fast cruisers, Japan 28 and the United States only 22. Relying upon the Arms Limitation Agreement to preserve peace, and overlooking the part played by secondary war-ships the United States has slipped way behind in her ratio. Congress has just passed an appropriation of $100,000,000 for the construction of ten light cruisers in an effort to maintain our footing on the seas.

Instead of facing the hard facts of world politics and the continuous fight for Empire, Americans persist in comparing the size of their fleets with those of Japan, pointing to Japan's building program as a reason why their own navy should be strengthened. In fact, Japan has been more than once accused of violating the Washington Agreement by secretly making up her deficiency in capital ships by an increase in secondary armaments. Let us look at the other side of the question.

Add to the British naval quota the present and future Australian tonnage, every ship placed in commission by the Indian Government, throw in the fortifications at Singapore, the huge Jamshedpur Steel Works, (the Key of British Imperial Defense in Asia), and Americans will begin to realize that if Japan is not to be eliminated as a first class Power and her influence in Asia undermined, her government must make every sacrifice to maintain in a high state of preparedness and efficiency the full naval quota assigned to her under the Washington treaties.

It is hard to foretell just how, where, or when, the next war will break out. With an experience of centuries in world domination, Great Britain wisely arms and prepares even against her best friends. That war may come through conceding independence to the Philippines. It may be precipitated over some event in China. It may come as the climax to a long drawn out and bitter controversy over the war debts. The European barrage against " Uncle Shylock " early this year is only the opening shots of a bombardment that will grow in intensity as the years roll by. America's foreign investments, largely in Europe, already exceed the eleven billion mark. At the rate foreign loans are being absorbed in the American market, another ten years will see twenty-five billions of American money invested abroad. Financial experts prophecy that by 1950 the total will reach over fifty billions. Long before that time, others nations will combine against us. War will come, if not in Europe, in the Pacific. England is preparing.

By dint of subsidies, the Indian Government is developing the greatest steel works in Asia. If this subsidy be withdrawn, the Indian Army Board, will operate and maintain its own steel plant from its own funds. Protected by the subsidy, the Indian iron and steel makers have captured the Japanese pig-iron market, compelling the Japanese manufacturer to contribute to the cost of creating a military weapon designed in part for their undoing. By the time the Singapore Base is completed, the Jamshedpur Steel Works will be placed on a permanent and profitable working basis. An Indian navy will be in the process of development outside the restrictions of the Washington treaties and patrolling the waters between Singapore and Suez. A British battle-ship division detached from the main fleet in the North Sea, with its swift cruisers, torpedo boats, destroyers, submarines, air-carriers and flying squadrons, co-operating with the Australian and Indian navies, will make Singapore its home station. The docking facilities of Hongkong, superior even to those of Singapore, provides Britain with a secondary and almost impregnable base within striking distance of Formosa and the Philippines. Slowly but surely Great Britain is strengthening her strategical position in Asia. Watching only what Japan is doing, seeing in her modest activities a menace to their own security. The only people who remain blind to the writing on the wall, are the Americans.

In fairness, it must be said that Great Britain is preparing in a purely defensive manner. In this, she is fully justified. Japan, with the lessons of Europe before her, labors under no delusions. The fear that these defensive preparations may at any moment be turned into weapons of offense, justifies Japan in taking measures to defend herself. It is the same old vicious combination of circumstances which brought on the Great War. Britain fears Japan's expansion. She fears the menace of her ever expanding trade. Japan is gradually ousting Great Britain in China. Her Dominions cry loudly for protection against the bogey of the "Yellow Peril." So Britain looks a long way ahead and prepares against her old time Ally. Japan also looks a long way into the future, determined at all hazards to preserve her independence and industrial prosperity.

While these great Powers arm against the day when friends may be turned into foes, America pursues the even tenor of her ways, quibbles over the expense of a few light cruisers and withholds appropriations that will maintain its fighting forces in a state of efficiency. Secure in our isolation, our great wealth and unlimited resources, and misled by European propaganda, America leisurely arms only against a possible menace in the Pacific, while forces in Europe are in motion to bring about her downfall.

* * *

Sayonara Nippon !

THAT Japan ultimately may sink or slip over the edge of the Tuscarora Deep and disappear into the Pacific, is the opinion of Dr. L. F. Noble of Los Angeles, who attended the Pan-Pacific Science Conference held at Tokyo in November last. Dr. Noble is not very precise as to the date when the Japanese Noah will have to build the Ark, but he thinks that such a disaster may occur within the next hundred thousand years. At any rate, he adds, that if the periodic earthquakes continue, there is reason to believe that Japan at some remote day will pass from the face of the earth. The bottom of Sagami Bay at Yokohama sank from 200 to 1,000 feet as a result of the last earthquake, and another such tremor might start a slide that would carry Fujiyama down into the abyss and leave only its cone sticking above water.

American Silk Association Crippling Japan's Means of Existence

SILK worms can be grown in the United States but the high cost of labor effectively prohibits the industry being operated on a profitable basis. *The New York Herald-Tribune* describing various attempts to implant the industry in America, concludes by saying : " All in vain ; the silk worm is only a curiosity in the Americas to-day. *The silk merchants of America have ceased to plant mulberry nurseries about their New England mills, and wisely spend their surplus on silk institutes like that of Lingnaam University at Canton, China, where the silk industry is 4,000 or 5,000 years old and labor is almost as cheap to-day as when the first wild silkworms were brought down from the hills.*"

The Herald-Tribune raises a point that has caused considerable anxiety in Japanese financial circles. Japan's principal source of wealth is derived from the silk-worm industry. The farms of Japan are small, so small indeed, that they barely provide a living for their owners. To eke out what in any other country would be a starvation living, the Japanese farmer through the assistance of his women and children, adds to his meager income and the wealth of the nation by growing mulberry trees and cultivating the silkworm. Take away that means of existence and Japan faces ruin.

Japan is a poor country with relatively few natural resources. She cannot compete with the major industries of the United States. Her real wealth lies in the labor of her people. She buys our raw cotton and textile machinery and through her labor has built up a profitable trade in cotton goods and yarns. The same type of labor produces the raw silk sold to the American silk manufacturer. The import of raw cotton from America and the export of raw silk for American mills, constitutes the backbone of Japan's wealth.

Japan can only expand by force of arms. There is no relief for Japan's population problem by emigration. Her people must remain at home and find profitable work in order to live. There is not enough capital in Japan to create new industries fast enough to take care of an annual increase of over 750,000 people. Take away her present means of existence, or impair her trade to the point where her industries are endangered, and Japan will be face to face with a crisis that may force a desperate people to resort to extreme measures in order to save themselves from extinction.

We have shown in the September number of THE FAR EASTERN REVIEW how tariff discrimination in other countries is fast building a wall around the people of Japan, cutting off their means of existence while condemning them to live within their own territories. Egypt killed a profitable tobacco export trade and India is doing its utmost to drive Japan's cotton goods from that market. The United States has placed a protective tariff on vegetable oils which has practically destroyed the soya bean industry in Manchuria and to add to her many complex problems, the Japanese see the surplus funds of the American Silk Association devoted to encouraging a new source of raw silk in China.

Increased consumption in America may require a greater output than Japan can at present satisfy and so provide Americans with a legitimate excuse for furnishing capital to create a new source of supply at lower prices. But every pound of Chinese silk produced as the result of American philanthrophy, must necessarily impair Japan's power of competition and ability to exist peacefully.

Investment of American capital in foreign countries for legitimate purposes of gain should be encouraged and protected, but when the surplus funds of any American industrial association are employed to create, foster or maintain experiment stations in China, it would seem that it is taking over an obligation that comes directly under the jurisdiction of the Chinese Government. The duty of maintaining such institutes is peculiarly the obligation of the governments concerned. Why then, should the surplus funds of the American Silk Association be employed to maintain a silk institute in Canton in order to teach the Chinese up-to-date methods of silkworm cultivation, and build up a new source of raw silk supply that endangers Japan's economic existence ? The financial leaders of Japan are worried over this new development, as they clearly forsee the day, when under the stimulus of American capital, China will deprive them of their main source of wealth and take away their means of existence.

Between the Devil and the Deep Blue Sea

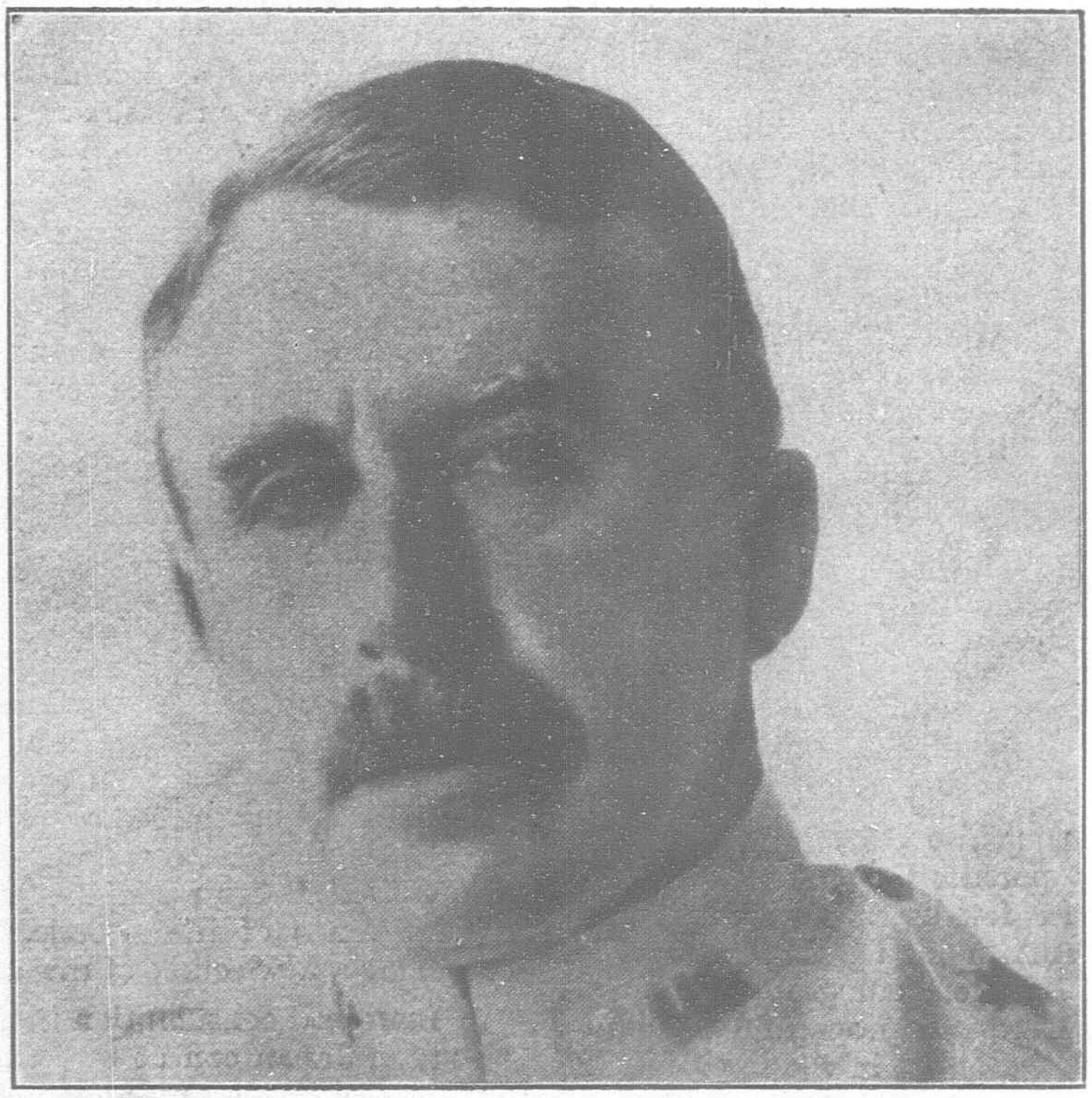
America's Obligations in the Philippines

THE resignation of General Leonard Wood as Governor-General of the Philippines, would seem to be presaged in the Thompson report recommending the end of " military rule" in the Islands. The unfairness of Thompson's criticisms of Wood's so-called " military cabinet" is seen in the fact that the Philippine Legislature denied to the governor-general the funds to employ competent and trustworthy civil assistants. General Wood's military aides are able and brilliant men, who willingly sacrificed careers in the line of active service in the same spirit of devotion to a leader they would as loyally have died to serve on the field of battle. General Woods success in a post surrounded by political enemies determined to defeat his administration, blacken his character and ruin his career, is due in large part to the splendid co-operation of the little group of army officers whose unswerving loyalty to their chief could not be shaken by bribes or promises of political preferment or promotion. All honor to them !

Aside from this there is nothing new in Colonel Carmi Thompson's report to the President on the Philippine situation. With few changes, it is the old story rehashed and brought up to date, with a recommendation to put an end to the clashes in authority between the Governor-General and the Filipino legislature. This, Colonel Thompson sees as the " fundamental need" of the islands. He then recommends the postponement of absolute independence until the Islands are sufficiently developed to maintain an independent government, but with progressive grants of internal autonomy as conditions warrant. In other words, a continuance of the policy which led to turning over the reins of government to the *caciques* and the reign of graft and incompetency which brought the Islands, to the brink of bankruptcy under the administration of Harrison. Unless the Democratic party undergoes a complete change of heart in regard to the Philippines, we face the possibility that its victory in a national election will undo the work of its predecessors by granting the Filipinos complete independence or a full measure of autonomy which will once more hand over the machinery of government to the *caciques*.

" Business in the islands," Colonel Thompson says, " is practically at a standstill. Not only is it impossible to obtain new capital but many existing investments are regarded as unsafe. Under the present conditions of political turmoil and uncertainty outside capital and business energy are not attracted to the Philippines and the Filipinos discourage their entry into the islands on the ground that it would lead to ecomomic exploitation and permanent political domination of the country by Americans."

He recommends the amendment of the land laws in order to attract capital for the development of rubber, coffee and other tropical products. Although not mentioned, this includes *sugar*. The Filipinos oppose any modification of the land law throwing open their country to exploitation and unless we are mistaken, the Louisians and Hawaiian cane sugar planters co-operating with American sugar interests in Cuba, the beet sugar industry and the refiners, will throw the weight of their tremendous political influence against any repeal of the legislation enacted originally at their behest to obstruct the development of a duty free Philippine sugar supply endangering their control of the Amercian market. Unless a repeal of the land laws applies with equal force to sugar holdings, it is a frank confession that our present concern is to develop a source of crude rubber supply under American control and if unaccompanied by legislation that will admit Chinese labor to work the plantations and a declaration of policy to retain permanent possession of the Islands, it is difficult to believe that any large amount of American capital will hazard the risks incidental to developing a rubber-growing industry under a program holding out ultimate independence to the islands. No American investor will pour his money into a country to lay the foundation of an economic independence upon which complete political independence is to be built. The risk is too great. The example of Cuba is always before us. An unappreciative and ungrateful people held in unwilling bonds of political and economical servitude to the United States, would soon find a way to ruin American investments unless deterred by fear of intervention. Filipino independence with the strings of an oriental Platt Amendment tied to it, will never release America from her responsibilities in the archipelago.



A Striking Photograph of General Leonard Wood, Taken in Manila while he was Commanding General of the American Forces in the Archipelago

At any rate, whatever may now be done to remedy matters by carrying out the recommendations of Colonel Thompson, (who, after all, simply repeats the advice of Governor General Wood) it is too late to save the situation. America has lost its opportunity.

Two or three years ago, when General Wood first proposed legislation for the development of a rubber industry, something tangible might have resulted from an immediate repeal of the land and labor laws. Early in January, an agreement was entered into between the Government of Liberia and the Firestone Tire and Rubber Company whereby an area of one million acres was leased for 99 years to the Firestone interests for rubber growing, in addition to 200,000 acres in full production planted sixteen years ago. The clearing of this tract will call for an expenditure of $100 per acre, a total of $100,000,000, giving employment to 350,000 natives. When in full production the concession is expected to supply 200,000 tons of crude rubber annually. This wonderful opportunity was offered to the Filipino people. Their caciques turned it down cold. After this experience, it is hardly to be expected that sensible American capitalists will be foolish enough to provide the economic foundation upon which to erect the structure of political independence for a people who resent their presence in the country.

Small independent planters with a limited supply of capital may take advantage of any modification of the Philippine land laws, but the day is past for rubber development on a grand scale.

Colonel Thompson is to be congratulated for that part of his report in which he says that "**abandonment of the Philippines at this time might complicate international relations in the Orient.**" In these few words he draws attention to the strategic problems outlined in the previous article. Withdrawal of the American guarantee to Filipino neutrality would automatically nullify the Four Power Pact, inaugurate another armament race between Great Britain, France and Japan and create a panic in Holland. Whether we like to admit it or not, America stands to-day as the guarantor of British imperialism in Asia, the buffer between the White and Yellow races in the Pacific. Had we accepted the Armenian mandate in 1919 which our kind friends in Europe handed to us on a silver platter, America would have held the frontiers of Asiatic empire, guaranteeing India against a Russian advance from the northwest and by reason of our possession of the Philippines, against Asiatic expansion from the northeast by way of Singapore. We had sense enough to side-step the Armenian trap but are caught fast with both feet in the Philippines.

As long as the American flag floats over Corregidor, the British Empire in Asia feels reasonably safe from Japanese aggression, but with the possibility always present that we will concede independence to the Islands, Britain takes no chances and arms against the day when the eastern approaches to her empire may be exposed to the menace of Japanese or Sino-Japanese expansion. As long as Philippine neutrality is guaranteed by the American flag, Japan feels equally safe against the danger of European naval predominance in the Far East. She welcomes a security which permits her to work out her population problem and industrial future along peaceful lines, but if the American guarantee to her stability is ever withdrawn, the exigencies of world politics as played by Europe, leaves her no option but to prepare to hold her own in the game of the empire which no instrument of world peace can ever change.

Some day, perhaps, America will face a show-down in her present Philippines policy, but it will not be forced by England or Japan. That day will arrive when China, once more mistress in her own house and backed by the strongest military force in the world, will demand the repeal of exclusion laws which bars her citizens from an adjacent Asiatic state. If Americans think for one moment that the proudest and oldest civilization in the world will meekly accept the stigma of inferiority involved in the extension of our exclusion laws to the Philippine Islands, they are deluding themselves. China will not go to war to enforce her demand. She wields a mightier weapon. When her Chauvinists proclaim an economic boycott against American goods until the principle of equality between Asiatics is established, our altruistic program will be put to the acid test. Whether Japan stands with China or not is of little consequence. Long before the time, when, in American opinion, the Filipinos are ready for independence, China will have come into her own. The economic future of the Philippines will pass from us to those who will develop their natural resources in the same way they have brought prosperity to the Malay States, Siam and the Dutch East Indies. We may fool ourselves into the belief that China will never turn on us. The weapon so mercilessly wielded against Great Britain will also be used against America. To ignore plain facts, is to play the ostrich. When the Chinese have stabilized their government and settled accounts with Europe, America will face a surprise in the Orient.

Contrary to popular belief, the Philippines are in no danger from Japan. In a heart to heart talk with the military leaders of Japan in September 1921, General Leonard Wood laid America's cards on the table. The Japanese as frankly exposed their hand. The mutual understanding then arrived at made possible the subsequent success of the Washington Conference. America will fight if Japan fortifies the ring of outlying islands guarding the sea approaches to the coast of Asia which, under certain conditions, could effectively close Chinese waters to American shipping. Japan will fight to preserve her hard-won rights in Manchuria. Both nations fully understand and respect each other's viewpoint and as Colonel Thompson during his recent visit to Tokyo held several important conferences with the leaders of Japan, he presumably came away impressed with their friendliness towards the United States.

It is clear, however, that the establishment of an independent Filipino republic would precipitate international complications in a part of the world where Japan's very existence hinges on absolute inviolability of Filipino neutrality. Our abandonment of the islands would immediately so alter the present strategic situation as to compel Japan to fortify every island approach to her home waters. Although such a measure of self-protection would involve no menace to the United States, it would automatically create the very situation that would justify America in going to war in the Pacific. No matter which way we look at it, a weak, independent Filipino republic can only precipitate changes in the *status quo* that must inevitably lead to hostilities in which we cannot escape becoming involved. If we withdraw from the Islands, we must either stand with Japan in order to preserve our trade approaches to the ports of China, or, deny to Japan the right to defend herself. It makes little difference whether we stay in the Islands or get out. In either event, we are between the devil and the deep-blue sea.

G. B. R.

The Betrayal of Wilson and Harding

The Crime of the War-Conspirators Double-Crossing Japan

AT the very moment Japan was accepting a secondary naval status and surrendering the right to defend herself, an admiral of the American navy was secretly and illegally putting through a deal which lays him open to the charge of double-crossing his President and bringing reproach upon the nation by double-crossing Japan. Confiding in the good faith of the United States to take no unfair advantage of an agreement prohibiting her from fortifying her outlying insular possessions, Japan welcomed the arms limitation proposals as the herald of a new dawn in the Pacific only to discover she had been duped into surrendering her most vital defenses and handing over control of the Pacific to the United States and Great Britain. The discovery implies no reflection on the honor of the nation. President Harding and Secretary Hughes lived up to the highest traditions of their country. America's reputation for honorable dealing remains untarnished but its government cannot escape altogether the stigma attached to a secret deal it dares not repudiate by publishing the truth. The honor and good faith of the United States has been placed in question and only by a full investigation and exposure of the facts leading up to the Pearl Harbor contract and the Elk Hills Oil leases can international confidence be restored in our diplomacy. America cannot fairly take the lead in further disarmament proposals until she satisfies the world that the next conference called for this purpose does not conceal another nigger-in-the-woodpile.

As Harding was betrayed by his subordinates, so was Wilson destroyed by trusted advisers who placed the interests of China above those of their own country. In order to save the League, Wilson accepted the Shantung decision in the firm belief that Japan would honorably live up to her pledged word and restore to China her lost sovereignty in this province. Behind Japan's promise stood the League, assuring its fulfillment. With the sole exception of Colonel House, all his confidential advisers and experts turned against him and carried the fight for China to a Senate which welcomed any argument to defeat the treaty. The betrayal of Wilson killed the treaty, kept America out of the League, broke his spirit and sent him to an untimely grave. Wilson stood alone in Paris, fighting against the secret treaties in which Great Britain and France were committed to the transfer of Germany's rights in Shantung to their Japanese ally. He was sorely tried and only after the rejection of every other compromise did he accept the only solution that could save the League. He placed his trust in Japan, but his confidential advisers, carried away by sympathy for China allowed sentiment to overcome loyalty to their chief and set aside the higher interests of their own nation. Wilson was stabbed in the back by his own lieutenants. His betrayal will stand as the most despicable political crime in American history. In the eyes of Europe, America is dishonored for failing to endorse Wilson's signature to the Peace Treaties. The major part of Europe's troubles since that date can be traced directly to America's failure to ratify its commitments at Paris. Seeking to create an instrument to end all wars, Wilson sowed the seeds now being harvested in Europe. His betrayal over Shantung, paved the way for war in the Pacific.

The violent campaign of slander, misrepresentation, falsehood and villification directed against Japan which accompanied the Shantung debates in the Senate was seized upon by a group of war-conspirators operating from Peking to force the United States into a " show-down " with Japan over China. A coterie of deluded Americans, whose first allegiance was to the Chinese Government, fell into the trap baited by European wire-pullers employing China as the screen to conceal their real objective. Japan and the United States were the only nations who profited by the Great War. If these two powers could have been prodded into fighting each other, the millions which rolled into their coffers from Europe would have rapidly returned to whence they came. There would have been no subsequent controversies over war-debts. America would have come out of the struggle crippled financially and her merchant marine swept from the Pacific. Japan would have been bankrupted and counted out of the race as an industrial competitor. The great prize of the world, the trade and development of China, would have been turned over to Europe. And the American " suckers " fell for it. All they asked was for a chance to wipe Japan off the map of Asia.

" It will take twenty years of difficult diplomacy to rectify the mistakes of the Wilson administration and counteract the anti-Japanese activities which precipitated the Washington Conference."

The man, who four years ago, spoke these words was one of the ablest of America's younger diplomats. Fresh from a tour of duty at Tokyo and attendance at the Arms Conference, the late E. W. Bell was assigned to Peking by Secretary Hughes in order that his sane judgment and intimate knowledge of Far Eastern affairs would break the *laison* then existing between the American Legation and the Sino-American and Anglo-American groups operating from the Chinese capital for the distribution of " confidential " literature calculated to incite American opinion against Japan. Bell died at his post.

Slowly, very slowly, the errors of the fanatics are being rectified. Every now and then some new episode of the great Pacific war-conspiracy is thrown on the screen of publicity, a vivid reminder to thinking Americans of how narrowly they escaped being railroaded into war with Japan on a wave of hysteria set in motion by propagandists in the service of the Chinese Government. A carefully censored reel of this story has been released to the public by the evidence in the trial of Fall and Doheny on charges of bribery and conspiracy in the Supreme Court of the District of Colombia.

Two gray-haired old men, one a millionaire richer than Croesus, the other a former cabinet officer, have been acquitted of any wrong-doing in connection with the Pearl Harbor contracts and oil leases, but the motives advanced in extenuation of their actions reveals the inside working of the war plotters and the methods employed by our naval authorities to avert an imaginary menace by appealing to the patriotism of a private American citizen to save the nation.

The main facts connected with the incident are as follows; In November, 1921, on the eve of the Washington Conference, Croesus loaned $100,000 to his old pal, the cabinet officer. In April of the following year three months after the Arms Limitation Treaty was signed at Washington, Croesus, through his operating company, was awarded the Pearl Harbor oil storage contract, carrying with it a clause conceding to the contracting company preferential right to the navy's Elk Hills Oil Reserves in California. In December, 1922, one year after the treaty was signed and six months after its ratification by the Senate, a formal lease to the Elk Hills Reserves was signed by the cabinet officer, handing over to Croesus and his company the exploitation of these immensely rich deposits from whose development a profit of $100,000,000 was to be realized. The Government has sought to establish a connection between the loan, the contract and the leases and convict the two old men of bribery and conspiracy. It lost its case. The two old men are free but their evidence will stand as part of American naval history. Let us glance at the testimony submitted by Croesus to explain his part in the affair.

Question : " What did Admiral Robinson say to you on the subject of storage at Pearl Harbor ? "

Answer :—" Well, he told me that the Navy Department had decided upon putting up storage tanks there to supply the American fleet with fuel oil that was necessary for operations in that part of the Pacific and tried to interest me in the matter, and, while I was not interested in the matter of construction of storage facilities, although I had notified Secretary Fall of the bids which the different men had made about Pearl Harbor, I was not very keen, and I let the Admiral know that I was not very keen about entering into any negotiations with the Government on the Pearl Harbor proposition, until he finally told me the necessity for it, and appealed to my patriotism and my sense of interest in the country's security by explaining to me certain things that had developed that was the reason for his particular urgency in this matter."

Question :—" All right, what things did he tell you had developed ? "

Answer :—" He told me that the Intelligence Department of the Navy had secured through Admiral Gleaves, **reports of the already preparedness and of the orders that had been actually issued for mobilization along on the Oriental frontier, and for the manouvers in the Pacific toward our borders,** and that the United States Board of Strategy had recommended to the Secretary of the Navy that they make these preparations so as to be able to offest any steps that the Japanese navy should take, and that if these were not made, we would be at the mercy of the Japanese navy."

" He told me that they had made their investigations by a board. I do not remember the name of the board. I do not easily remember the names of these boards that are used by the navy for various purposes, but it was in their manouvers, in a room that they use for that purpose, where they had a by-play of ships just as though they were carrying on regular military or navy manouvers, and he said that in every attempt that they had made, with the possession of Pearl Harbor and a sufficient supply of fuel oil there, our navy was capable of preventing any navy afloat from reaching the Pacific coast, bent on an invasion, but, he said, without a supply of fuel oil at Pearl Harbor, our navy could be easily overcome by one or more navies that existed on the Pacific, and he led me to believe that this—or he told me that this, was a menace that was actually existing, and that if we did not prepare for it we might find ourselves in the position that Belgium was when it was invaded by Germany."

" He said he had seen enough of the result of invasions on the Atlantic coast of Europe to know that an invasion by the Japanese on the Pacific coast of California would mean a reign of terrorism that would be indescribable, and he got me very much worked up over it, and I still am, and he told me in a very earnest tone of voice that it was up to me now to give him such assurance that at least one company would bid on this transaction ; that he was going to appeal to the other companies in the same way ; that he was going to try to get all the people on the Coast aroused to the necessity for this thing, and that he wanted me to let him know whether or not the Pan-American Company would give him a bid on this project of building the storage at Pearl Harbor."

Question : " Did he say anything to you at that time about the Disarmament Conference in Washington ? "

Answer : The witness replied that he had attended several conference sessions. He said the Admiral told him that that Conference was called by President Harding and Secretary Hughes because of the emergency brought about by Japanese conduct on the Pacific. He said the Admiral declared that Japan had made such menacing movements over there that the Administration had called this conference in order to be able to confront the Japanese with the representatives of the other chief governments of the world with the idea of trying to bring about a crushing of this Japanese movement toward supremacy on the Pacific.

Question : " What, if anything, did he tell you about the effect, if any on the efficiency of our fleet on the Pacific, with an adequate supply at Peal Harbor ? "

Answer :—**" He told me that the fleet on the Pacific would be double in its efficiency ; that it would be just the same as if we had given to us for nothing double the amount of fleet, but even then it would be more than double, because he said the fleet that we had would be efficient and able to move, while if**

we had double the amount of ships without the oil we could not move at all. He called my attention to a remark that was made by Lord Curzon about the armies of the allies floating to victory on a tide of oil, and said it was our flowing to security on a tide of oil on the Pacific that would make it possible for us to exist, if we built these oil fuel deposits, and if we did not build them that we might easily be overcome by an enemy country "

Question : "Your home at that time was on the Pacific Coast ? "

Answer : " Yes, Sir."

Question : " What did you say ? Did you say anything at all to Admiral Robinson and if so, what about having considered this matter before, when Secretary Fall spoke to you about it ? "

Answer : " Yes, I told him I had taken the matter up, and that we were interested in it as a business project, but that we were not very much concerned about whether we carried it out as a business project, but now as he appealed to my feeling of patriotism, for the country that I lived in, where my family, my children and my grandchildren lived, that I would see to it that the company I was interested in would give them a bid on this project."

To establish their case, Doheny's lawyers summoned Secretary of the Navy Wilbur to the witness stand to answer questions as to the strategic points raised by the defense, specifically calling upon him to produce in court forty-five telegrams and fifty-one letters received from Rear Admiral Gleaves (commanding the Pacific Fleet) between September, 1920 and March, 1921. Secretary Wilbur refused to produce these communications on the ground that disclosure of their contents would be prejudicial to public interest.

Keeping the above dates in mind, it is clear that whatever may have been the contents of these secret naval intelligence reports, they could only have referred to the Far Eastern situation at a time when the Chinese propaganda over Shantung was at its height and when the American army was co-operating with the Japanese forces in Siberia for a common object. It is also obvious that no matter how serious the situation painted by dispatches covering this period, it carried no menace to the security of the United States and whatever remote cause for war with Japan may have existed as the result of mutual suspicion and misunderstandings in China or Siberia, the call for the Washington Conference and its acceptance by Japan completely cleared the atmosphere.

It is also a matter of record that misunderstandings between Japan and the United States, previous to the call for the Washington Conference, were threshed out in a manly heart-to-heart talk held in Tokyo in September, 1921 between Major General Leonard Wood and the military leaders of Japan. President Harding knew in advance of the conference exactly where Japan stood and that under no circumstances would she go to war with the United States except to protect her hard-won economic and strategic rights in Manchuria. This was Japan's irreducible minimum. When assured that the question of her position in this region would not be raised at the conference, she sent her best men as delegates with instructions to sacrifice everything compatible with national honor and dignity for the cause of Peace in the Pacific. No nation could do more.

It is foolish to assume that General Wood's report to the President in such a vital matter was not fully communicated to the cabinet and by the Secretary of the Navy to his chiefs of operations. So when Admiral Robinson in December, 1921, conjured up a menace " *on the Oriental frontier* " as the reason why a private American citizen should secretly save the nation at a time when his colleagues had prepared the arms-limitation plan proposed by Secretary Hughes at the opening session of the conference, he was either maintained in ignorance of essential facts, or, knowing them, deliberately defied his superiors in the interests of his own department and brought upon his government the stigma of double-crossing Japan.

Harding and Hughes worked for peace ; a navy department chief secretly and illegally prepared for war. Anti-Japanese writers are fond of stressing the point that the Japanese Government is dominated by its military leaders and no matter what the Foreign Office may do to further the cause of peace and good-understanding, its work is nullified by the secret and independent activities of the General Staff. There is hardly a Chinese who does not believe this.

The President of the United States calls an arms-limitation conference to ward off the possibility of war and preserve the peace of the Pacific. Japan gladly attends and accepts the proposals relegating her to the status of a second-rate naval power, scraps her capital ships and abandons new construction to correspond with her quota ; surrenders the right to fortify the Bonin and other outlying islands ; withdraws her troops from China ; evacuates Siberia ; hands back to China her rights in Shantung ; signs the treaties guaranteeing China's sovereignty and integrity and looks forward hopefully to a new era in the Pacific in which she will co-operate harmoniously with the United States for the advancement of mutual interests and policies. Yet, at the very moment when she was sacrificing her powers of defense at our invitation, a group of fanatical war-enthusiasts were moving heaven and earth to steal a strategic march on her that would give to America an additional strength in the Pacific. Before the Washington treaty was ratified, the Pearl Harbor contract was let to Doheny, in order to double the strength of our fleet in the Pacific under the pretext of saving the nation from perils, which, if they ever existed, had long since disappeared. National security was purchased at the price of national honor. And they call this Patriotism !

" Patriotism ! BUNK ! They were out after the business. If that is patriotism ; if that doctrine is to apply then it means the end of honest, decent government. The Patriot Doheny ! The man who jumped into the breach and saved his country ! It almost moves me to tears ! What kind of a flag are we going to hang on a man who carried off 39,000 acres of the navy's oil lands ? I can't see any need for waving the flag over a deal embodying $100,000,000 profits " thundered the prosecuting attorney in summing up his case.

BUNK it was, the same old line of hokum handed out in Peking for American consumption and swallowed whole by a group of gullible attaches, serving under a chief who terminated his career as American Minister by taking over the job of High Adviser to the Chinese Government and carried his fanaticism to the point of demanding in his letter of resignation, that President Wilson force an immediate " show-down" with Japan, before it was too late. If ever given publicity, that *dossier* of intelligence bunk from Admiral Gleaves reposing in the archives of the navy department, will reveal that not one of these alarming reports about Japan's preparations for war, emanated from the military or naval attachés accredited to the American Embassy at Tokyo. These reports which Secretary Wilbur now refuses to produce before a court were unquestionably sent by the subordinates of Reinsch at Peking, men so thoroughly hoodwinked that they failed to unearth the existence of a secret treaty of alliance between China and America drawn up by one of their British associates acting as Adviser to the President of China. Here was a secret treaty providing that the ports of China be turned over to the American fleet and that China was to hold the Gulf of Chihli pending arrival of American Expeditionary Forces ! Another case where the ally of China was to do all the fighting. And our intelligent intelligence officers, hail-fellow-well-met with the author of the treaty, sipping cocktails over the bar of the Peking Club with him daily, knew nothing about it ! The Gleaves reports will also probably cover the investigations of an American naval officer who industriously explored the Gulf of Chihli seeking possible bases and landing places for the American army in the war that was to have been pulled off in order that American and Japanese war profits would return to Europe and the trade of China handed to Britain on a silver platter. These reports will disclose that the war was to have been in some way connected with Japanese activities in China or Siberia. That " *mobilization on the Oriental frontier*" (how deliciously vague it all was), has only one plausible meaning. It could not have had anything to do with a Japanese menace to China. Get that point straight. The Peking Government of that date was an ally of Japan, bound together in a War Participation Pact for the defense of Manchuria and Mongolia against the menace of Bolshevism. Not until the Anfu Club was overthrown by Wu Pei-fu (the hero and darling of the Anglo-American anti-Japanese clique) did any friction arise between China and Japan. If Chinese questions entered into these intelligence reports, it is clear on the face of things, that they were written for the deliberate purpose of preventing the consummation of a Sino-Japanese *entente* establishing the influence of Japan in the affairs of China.

Either that, or the United States was being forced into a position where it would have to take up arms in defense of Bolshevism by interfering with the plans of China and Japan to confine this meance to territories west of Baikal. In fact, the United States supported by Great Britain, curtly denied to Japan the right to defend herself and China against " the menace from the direction of Urga" when they insisted that she surrender to the consortium the Taonan-Jehol Railway concession. That is the sole interpretation to the menace involved in "the mobilization on the Oriental frontier," a bogey conjured up by Admiral Robinson to induce a private American citizen to save the nation from a situation, which analysis discloses was really directed against Soviet Russia. It is enough to make the Sphinx laugh. Imagine the American people springing to arms to make the world safe for Bolshevism. Yet this is the only explanation of the phrase. When Admiral Robinson talked to Doheny about the necessity of building the oil storage tanks at Pearl Harbor and the contract and leases were signed, the "menace on the Oriental frontier" was ancient history. Or, are we to understand that every time Japan mobilizes her fleet in her own waters, or her war-ships steam in battle formation from Kure to Yokusuka, that these manouvers are directed against the security of the United States? When the American battle-ship fleet steams into the Pacific on a cruise to display our strength to Japan, or when our war ships swing around the Southern Seas in a friendly visit to New Zealand and Australia and engage in manouvers en route, is Japan justified in becoming alarmed at the possible meance to her security? Whatever the American navy does is justified, but let Japan send her battle fleet into the Pacific and play the game of war with the Bonin or South Sea Islands as its base and we will have some other admiral appealing to the patriotism of an American Croesus to erect additional oil storage stations at Midway, Tutuila, or some other island in the Pacific.

The war-conspirators and their American dupes over-reached themselves. A new administration with a complete change of personnel refused to lead the nation blindfolded to the slaughter in order to protect four hundred million confirmed pacifists who would not fight for themselves, or, to preserve Russia's hold upon vast territories in Asia stolen from the Yellow Man and now urgently needed for his expansion. Had we fought such a war and won, we should have lost. *There was nothing to be gained on either side.* The only winner in the game has been Croesus, the Patriotic Profiteer, who annexes 39,000 acres of the navy's valuable oil reserves, property of the nation, and stands to pocket $100,000,000 from their exploitation. The real losers are the people of the United States, the dupes of their own officials who placed the interests of China above those of their own country. Their naval oil reserves are gone and their Government stands accused before the world of double-crossing Japan at the very moment it was stripping her of her defesses under the pretext of negotiating a peace treaty.

On the heels of the Pearl Harbor Contract came the announcement that the British Government would build a master naval base at Singapore. Is it any wonder the Japanese became alarmed? Induced to surrender the right to fortify their outlying insular possessions, sole protection against a foreign naval demonstration, and accepting an inferior naval quota (a guarantee that they harbored no aggressive designs in the Pacific) the Japanese suddenly awoke to the fact that they had been buncoed into handing over the mastery of the Pacific to the Anglo-American fleets. The significance of the speeches in the House of Commons announcing that in the event of war between Japan and America, the Singapore base would be used by the American fleet if driven out of Philippine waters, was not lost on the Japanese. Neither do they overlook the sinister prediction by leading British publicists that some day Great Britain may be able to do America a good turn in the Far East and so bring about a revision of the war-debt.

Japan is thoroughly awake to every move on the Asiatic chessboard. She understands that Britain's scheme of Imperial Defense based on Singapore and the Jamshedpur Steel Works is aimed in part at herself. Japan has gauged to a nicety the effect on the strategic situation by the creation of an Indian navy and the expansion of the Australian fleet operating in conjunction with a British naval division from Singapore. They know that these moves are directed against the so-called Asiatic menace. They see America feverishly developing Pearl Harbor into the Gibraltar of the Pacific while their hands are tied by the provisions of a treaty prohibiting the fortification of their own outlying approaches. Japan has faithfully adhered to the terms of the Washington treaties, but within the limitations of the pact, she arms against the day when Great Britain alone or in alliance with America will employ their master bases in the Pacific to coerce her in some future controversy. Is Japan to be adjudged guilty of violating the spirit of the Arms Limitation Agreement, when, at any day, a change of administration in the United States may concede independence to the Philippines and precipitate complications imperilling her existence as an independent state?

There is no limit set to the number of light cruisers in the Arms Agreement. Nearly all the crack liners in the British Naval Reserve could be converted over night into commerce destroyers. Japan's merchant marine enjoys no such advantage. The United States took no chances, even when the arms limitation agreement was being negotiated. It became a question of oil or cruisers for the navy. Money for cruisers could not be extracted from Congress under an administration pledged to peace and reduction of armaments. To offset this disadvantage, the navy chiefs secretly put through a deal to provide oil storage facilities calculated to double our cruiser efficiency by increasing its sphere of operations. The strength of the American navy in the Pacific was doubled without the addition of a single ship. Japan has no oil reserves worth speaking about. Such limited supplies as she is able to store up are purchased in bulk from American oil companies.

The Pacific war-scare disclosed in the Fall-Doheny trial has since come under inquiry by the House Naval Committee. Commenting on the refusal of Secretary Wilbur to produce the confidential intelligence reports from Admiral Gleaves, Congressman Mc Clintic of Oklahoma, told the committee that **"he had been advised by a high ranking officer of the navy that these so-called Japanese reports contained no information which would show a belligerent attitude on the part of Japan and that the department could not afford to allow any member of Congress to see these reports for the reason that they would show that the secret policy of the navy with respect to the oil leases and the building of tanks was not justified"**

This is undoubtedly the truth. If ever submitted to Congress it will be shown that the bulk of these naval intelligence reports originated largely in Peking and Siberia and had no bearing on any direct menace to the security of the United States. The Secretary of the Navy does not dare release these reports for publication without bringing ridicule upon the Government. There is nothing in these reports but the wild tales of half-baked military observers attached to the American army in Siberia who, ignorant of the language and inspired with hostility towards Japan, accepted at their face value the bunk told them by Bolshevists and Chinese. These reports, together with the equally misleading years manufactured for American consumption in Peking to support the program of a group of war conspirators, were magnified into the "menace on the Oriental frontier."

The Administration may delude itself into the belief that it is to the public interest to withhold publication of these documents, but when, in the stress of the next presidential campaign, the Democratic party leaders revive the oil scandals to defeat the Republican candidate, it may be too late to counteract the indictment. The Pearl Harbor contract and the Oil Lease Scandals have their roots firmly embedded in the war-conspiracy hatched under a former administration. The real culprits are not Fall, Doheny or Admiral Robinson. If the present administration to go before the country with clean hands those reports should be handed to Congress and a full investigation started which will place the responsibility of the war-scare where it belongs.

The scene shifts. Fall and Doheny have been acquitted. Fall, and another oil magnate by the name of Sinclair, are not to be tried before the Supreme Court of the District of Columbia on charges of conspiracy to defraud the Government in the leasing of the Teapot Dome naval oil reserves. Fall, Doheny and Robinson," the Three Tailors of Tooley Street" who resolved themselves into "we, the people of the United States," to save the nation, give place to another millionaire patriot who also jumped into the Pacific arena to protect the nation against the "aggressive designs of Japan."

It is unlikely that this angle of the war-conspiracy will be emphasized in the forthcoming trial, but it is well to recall that when Fall and Doheny were providing oil storage depots at Pearl Harbor in order to double the efficiency of the Pacific fleet, Sinclair was busily engaged in trying to secure possession of the oil fields of Northern Saghalien at a time when that territory was occupied by a Japanese military force until Moscow came through with an indemnity for the Nikolaivsk massacres. Had Sinclair succeeded, the Japanese navy would have been deprived of a near-by source of fuel oil supply when the great stunt in the Pacific was pulled off. Sinclair received a concession from the Soviet Government to extensive oil fields in Russian Saghalien on the condition that his company influenced the State Department to recognize it.

Japan had announced its determination to hold these Saghalien fields as a trading card in her negotiations with Moscow, so when the Soviet handed over the concession to Sinclair at a time when our intelligence officers in Siberia were bombarding their chiefs about "the menace on the Oriental frontier," the sole inference is that the concession was a direct bribe to enlist American aid against Japan. Just how far the Saghalien concession to Sinclair influenced the reports employed by Admiral Robinson to induce Doheny to accept the Pearl Harbor contract, can only be established by handing over to the Congress the *dossier* now reposing in the archives of the Navy Department. It would not be surprising to learn that these two transactions were closely related to each other. All the evidence that has come to light, clearly proves that the Sinclair interests were being used as a catspaw to incite hostilities in the Pacific.

Future of Fushun Shales

THE shortage of oil fuel through exhaustion of existing wells will be offset by distillation from coal and extraction from shales, once the price of oil becomes high enough to make these processes profitable. According to Harry H. Hill, Chief Petroleum Engineer of the United States Bureau of Mines, the supply from these sources will meet all petroleum requirements for many years to come. This authoritative statement is of special interest to the Far East, where the largest known deposits of shale at the Fushun Colliery await commercial exploitation.

In Europe, much is being done to distill oil from coal, but extracting it from shales is more appealing, Scotland has worked it shales for seventy five years and under present methods of extraction are producing about 25 gallons of oil per ton of shales. The Scotch seams are 3½ to 10 feet thick; the shales covering the Fushun coal deposits are over 400 feet thick and the cost of stripping is charged to the cost of mining the coal. The Fushun shales give an average of 28 percent. in oil and at present market prices for the products a plant would return about eight percent, on the investment. It is only a question of time when the steady rise in oil prices will make the Fushun deposits one of the most valuable oil properties in the world.

Japan's Burden

SIR Edward Grey once told the House of Commons that; "you cannot apply one principle in one part of the world and another in another" When that doctrine was advanced by a newspaper correspondent to support China's right to build her own railway system, one of his Continental colleagues cynically replied; "principles that apply to Europe cannot be extended to China." In other words, might makes right.

Can a principle applied by the United States Government in Central America and the Caribbean for the protection of its vital strategic position, be extended to cover the equally vital strategic and economic necessities of Japan in Eastern Asia? Until that question is answered in the affirmative, have we the right to expect Japan to acquiesce wholeheartedly in a doctrine which is slowly but surely forcing her into a corner where she must either fight or surrender her independence?

America, Great Britain and France, may, with impunity take forceful steps to defend any infraction of principles deemed essential for the preservation of their own interests, but this right cannot be exercised by Japan without inviting the combined opposition of the other powers, whose trade interests in China are employed as a pretext to deny to Japan the privelege to defend herself. The American Government reserves to itself the right to intervene by force of arms in Central America to uphold its ideas of properly constituted authority in these regions. The party in power friendly to America is always the legitimate government. We send battleships and land marines in order that our conception of Latin American politics and justice is upheld. Intervention? yes, but always warranted by the menace involved to American lives and properties.

The meddling of other powers in the affairs of China and a determination to prevent Japan from exercising any influence in its affairs, is forcing her into a position where, in self-defense, she must sooner or later apply the same doctrine in Eastern Asia that the United States so energetically enforces in the Caribbean. Russia stands behind Feng Yu-hsiang and the Nationalists, suplying them with arms, munitions, money, officers, men and brains. Russia is doing in China exactly what the United States is doing in Nicaragua. The only possible check to Russia is for Japan to finance Chang Tso-lin, or, step into the arena herself. The success of the Bolshevist program in China, means that sooner or later, Japan must once more fight for her existence on the plains of Manchuria and Mongolia. How long must Japan be expected to remain with her hands tied, waiting until her enemies challenges her position on the Asiatic mainland? What other great Power would meekly acquiesce in a doctrine which denies to it its power of defense?

As the vital interests of the United States are centered in preserving its dominant influence in Central America, so the vital interests of Japan are centered in maintaining her economic and strategic position in Manchuria. The principle enforced by the United States in Central America applies with equal if not greater force to Japan in Manchuria. Is this principle to be recognized, or, is the United States once more to make the grave mistake of interfering in matters which concern the very existence of another people?

Opinion in the United States is gradually swinging around to a recognition of Japan's rights in her own sphere. *The Christian Science Monitor*, one of the foremost leaders of American opinion, sees the situation in its true light when it says:

"Russia, always looking east, is actively supporting one faction. The hand of Bolshevism appears in the riots which destroy authority in the industrial towns, and in the equipment and leadership of efficient armies in the field. It is the greatest international adventure of modern times—this shifty and insidious effort of the Soviets to undermine any responsible government in China, while supporting with arms and money the military chiefs who seek only personal domination. Once such a one is installed only the power of Russia can maintain him, and he will be Russia's man so long as he holds power.

"Upon such a possibility Japan cannot look with indifference. No nation would view except with grave apprehension the establishment of Bolshevist authority over such an enormous population as its nearest neighbor. It so happens, therefore, that Japan stands now as the outpost of western ideals and civilization, Oriental as her own origins may be. It is to her statesmanship and her power that Europe and the United States will look to furnish the first, and perhaps the final check to the eastward march of the Bolshevist bear.

"It is a heavy burden to lay upon a comparatively small nation, which of late has suffered cruelly in other ways, but in performance of the task Japan should have the sympathy, moral and material, of the rest of the civilized world."

When the show-down comes, will America extend this sympathy to Japan? Let us not forget that American diplomacy is largely responsible for practically all that has occurred in Siberia and Manchuria to strip Japan of her power of defense in those regions.

The Hay doctrine, promulgated at a time when China and Russia had signed a secret treaty of alliance directed against Japan, deprived the victim of the right to take prompt counter-measures to defend herself. Our mistaken post-war diplomacy compelled her to cancel the War-Participation pact with China, surrender the Taonan-Jehol railway concession and withdraw her troops from Siberia, we opened the door for the reentry of Russia into Manchuria and China. Japan has been the Goat of Western diplomacy. The powers have denied to her the right to apply a principle that they would fight at the drop of the hat to enforce where their own interests are at stake. It is a heavy burden we have laid upon Japan, and if she now places her money on Chang Tso-lin in order to preserve her vital interests in Manchuria, who can deny to her that right? Surely, after Nicaragua, not America.

British Trade and Industry

By Gilbert C. Layton, Assistant Editor of "The Economist"

SPECIAL TO THE "FAR EASTERN REVIEW."

Low-Temperature Carbonisation Developments

A MEMBER of the Government has relinquished office in order to take up the chairmanship of a company formed to develop a low temperature carbonisation process. One is thus reminded that much research work has recently been done in this connection. Indeed, Dr. C. H. Lander, Director of Fuel Research under the Department of Scientific and Industrial Research, has stated that 200 processes are now known. He added, however, that few have been thoroughly tested. Dealing with the economics of the problem, Dr. Lander has pointed out that the chief products of any of these carbonisation processes are (1) a solid smokeless fuel (2) a tar not unlike petroleum, and (3) a rich gas. The most important is a solid smokeless fuel and in a commercial plant it will have to be marketed at a price sufficient to give it a reasonable sale in face of the competition of raw coal. The relative amount of the tar or gas produced depend upon the temperature at which the plant operates. Certain researches by the Fuel Research Board point to the existence of a definite critical temperature above which a large volume of gas will preponderate and below which the tar will be the greater product.

As for the commercial feasibility of low-temperature carbonisation, it would seem that Dr. Lander is not extremely optimistic. The Fuel Research Board, he said, operates full scale units of plant at its station is East Greenwich ; but up to the present it has never had a credit balance on its working on low-temperature carbonisation plant. When a credit balance seemed within reach a slump in the price of oils again deferred the actual realisation. At the same time, there are business men and others who are distinctly more hopeful. This is partly borne out by the event referred to at the beginning of this note, while another company in the North of England hopes to have a weekly output of 400 to 500 tons of solid smokeless fuel by the end of May and a continuous production of 1,000 tons a week with attendant by-products before the end of the year.

The British Motor Industry

When Mr. Bruce, the Prime Minister of Australia, was in this country in connection with the Imperial Conference, he directed attention to the defects of British motor cars from the Australian standpoint. In particular, he referred to the unsuitability of the design for the imperfect roads of Australia, and his criticisms applied equally to all countries whose roads are not of the perfect order. Other countries, he showed, were more anxiously striving to meet the requirements of countries with rough roads, with the result that British manufacturers were losing ground ; and the position in this respect was, in his view, unsatisfactory. The trade returns for the past year would seem to indicate that Mr. Bruce's criticisms had some point, for exports to Australia and New Zealand show a substantial decline as compared with 1925. In these circumstances, it is clearly time that our manufacturers adopted a less independent attitude and began a careful study of overseas needs.

It is all the more surprising that they have not done this in view of the enterprise that they have shown in catering for the home market. The motor industry was among the chief victims of the post-Armistice economic crisis. That the industry has subsequently been able so largely to retrieve its fortunes has been due to little less than a revolution in policy. The most successful manufacturers have tended increasingly to specialize in the lighter type of vehicle, capable of being turned out in large numbers by mass production methods. The British product is much more economical as regards British taxation and running costs than the average American model. Progressive improvements in design and quality combined with reductions in price, have enabled manufacturers to tap a satisfactory home market and meet on balance an expanding overseas demand. It is, therefore, particularly disappointing that they should be losing their hold upon certain valuable markets abroad through want of attention to matters of detail. It may be added, however, that this does not apply to all the British motor manufacturers indiscriminately, for Morris Motors, which is a notable example of an enterprising undertaking and by far the biggest British firm in this industry, has recently secured substantial orders for overseas markets, in particular Australia and South America.

Power Problems in the Textile Industry

To-day there are few who dispute the advantages of the electric-drive in the textile industry. The majority of new mills are entirely electrically equipped, while the older ones are being converted as the opportunity arises. The question of whether the power should be generated in the factory or taken from a public supply undertaking is, however, still the subject of contention. It would seem, nevertheless, that the advocates of tapping a public supply have a strong case. Already the electric supply industry has made substantial progress in Lancashire, for it is estimated that the supply to textile factories alone probably amounts to 200,000.

The case for public supply may be summarised as follows. The cost of the electricity is directly proportional to usage. That is to say, supply readily responds to requirements and only that which is used has to be paid for. The fact that the supply is always available is important, since it means that all the difficulties of production—such as labour questions, coal supplies, plant breakdowns etc—are shouldered by the supply undertaking.

There are no losses to be paid for such as arise through radiation, getting steam up and so forth. As a public supply engineer has recently pointed out, there is the question of capital outlay involved in the private power plant at a textile factory consisting of boilers, engine or turbine, cooling-water reservoirs, together with the usual auxiliary plant, including a chimney and buildings. These in the aggregate amount to far more than the cost of installing motors, wiring and electrical equipment, so that the annual capital charges are much less in the case of a mill drawing its supply from the public mains. A further point in favour of public supply is its greater reliability. In short, experience has shown that there is an actual gain in production in the case of a textile factory drawing its electricity supply from a public undertaking as compared with one generating its own power ; and the greater the number of factories taking the public supply, the greater will be the gain.

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National City Bank

Consolidation of the National City Bank of New York and the International Banking Corporation, by which the former institution branches out into a world-wide organization under the one name, was effected formally on Jan. 1. When the process of absorbing the corporation's branches is completed the National City Bank will be operating directly in seventy-five of the most important cities of twenty-two countries.

Banking service for trade and industry the world over will be provided, and the National City's activities will range from financing Cuban sugar crops to supplying funds for Siberian fur trappers. The bank will also maintain a complete foreign exchange organization.

Branches of the International Banking Corporation, which will become foreign offices of the National City Bank, include eight in China, in Canton, Dairen, Hankow, Harbin, Hongkong, Peking, Shanghai and Tientsin ; four in Japan, in Kobe, Osaka, Tokio and Yokohama ; three in India, in Bombay, Calcutta and Rangoon, and one in Batavia, Java. Activities of the London branch will be combined with National City's offices in the British capital. Branches in Spain and the Philippine Islands will continue to operate under the control of the corporation and its offices in London and San Francisco and the head office in New York.

The new members will make an important addition to the list of National City foreign offices, which includes twenty-five in Cuba, seven in the Dominican Republic and others in Argentina, Belgium, Brazil, Chile, England, France, Italy, Panama, Peru, Porto Rico, Uruguay and Venezuela.

Japan Ranks Fifth in American Commerce

RANKING fifth in American commerce, Japan's increasing importance in foreign trade is a reflection of the industrial development of that country, says the New York Trust Company. "The growth in Japanese consumption of American goods for the first half of this year is particularly significant in view of the fact that the abnormal demands made necessary by the earthquake had subsided by 1925. In fact, that year had shown a decline in Japanese purchases from America. Development along normal lines this year has, however, required increased imports of both raw materials and manufactured articles, and a large proportion has come from the United States.

"In the first half of this year the cotton textile industry consumed 463,000 bales of American raw cotton compared with 367,000 in the first half of 1925. Sales of American raw cotton in Japan were 26 per cent. larger than the previous year. Despite the American rayon industry, Japan was able to export silk fabrics to this country valued at $5,187,000 during the first six months of 1926 as compared with $3,911,000 in the same period of the previous year."

It is pointed out that national prosperity in Japan depends very largely upon the success of the efforts toward large-scale manufacturing in that country. Many of the Japanese industries stimulated by the war have suffered in the post-war competition from America and Europe. The iron and steel industry increased its capacity from 250 000 tons at the beginning of the war to 1,000,000 tons in 1919. The return of American and European competition halted that development. Since that time Japan has consumed more than 1,000,000 tons a year and less than half of that has come from her own mills despite the protective tariff.

"The country is still poor—its per capita wealth and income are the smallest of all industrial countries," says the survey. "For 1925 the per capita income is estimated at $60 a year and the per capita wealth at $350 as compared with $600 and $3,020 respectively in this country. By the middle of this year there were about 33,000 automobiles in use in Japan—one for every 1,800 persons—as compared with one for every six in the United States.

"Japan's industrial civilization, therefore, awaits considerable further development, which will largely depend upon ready access to raw materials and an expanded market for factory products. The Government, for its part, is now pursuing a policy of economy and financial entrenchment. Partly due to the necessary reconstruction after the earthquake of 1923, the public debt had increased from about $1,250,000,000 in 1918 to $2,165,000,000 in 1925. It should now be possible to curtail further loan flotations. A committee has just been appointed to examine the country's banking system and to recommend legislation for improving the nation's finances."

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Japanese Culture Center for New York

MR. RYUSAKU TSUNODA, former secretary of the Japanese Association in New York is now in Japan perfecting plans and gathering material for the establishment of a Japanese Cultural Center in that city. The new institution is designed to promote a closer cultural relationship between America and Japan, a sort of 'contact zone' where Americans and Japanese can mingle and get acquainted, and an open forum where they can freely discuss subjects of common interest. There will also be an information bureau where may be secured accurate knowledge of Japanese life and culture, old and new. Lectures will be given; research work will be carried on; papers and bulletins will be published from time to time; competent speakers will be secured for the American public.

"In order to carry on these activities successfully, provision must be made for a library. An extensive collection of books on Japan and the Japanese people will be made. Books printed in English and European languages will first be provided; a second division will consist of Japanese books and manuscripts, comprising all categories of standard works in the Japanese language.

"An historical museum, representing the five epochs of the evolution of Japanese culture, will be a part of the Centre. Each epoch will have its religious life represented in the Centre of the section devoted to it. The exhibits will be the contributions of various Shinto shrines and Buddhist denominations, as well as Confucianists and Christians. The great Japanese municipalities which were at different periods centres of historical cultures, are expected to render their aid to make their own sections useful.

"The culture centre will have a room designated for the builders of modern Japan, who embody in themselves the spirit of the new empire. This room will hold contributions from those who have left their marks on the various phases of present-day Japan's development.

"Hitherto, efforts at cultural understanding have been one-sided as far as America and Japan are concerned. The former nation has always been alert in initiating and inculcating Occidental culture among the Japanese, until the English language has come to be our second tongue. When the last great earthquake disaster threatened our cultural well-being, inflicting severe damages upon educational institutions and libraries, it was America that helped in such a magnificent manner to restore Japan's almost irreparable loss. Japan will have to go a long way, and go very fast, if she wishes to create even a semblance of reciprocity."

An advisory council made up of authorities on various phases of Japanese culture has been formed, Mr. Tsunoda announced. It includes Professor Frederick Bancroft, George Grey Barnard, the sculptor. Dr. Stewart Culin of the Brooklyn Museum, Dr. Bassiford Dean, Dr. Stephen Duggan of the Institute of international Education, Dr. Sidney Gulick, J. W. Mason, Dr. Paul Monroe of Columbia, Dr. Hideyo Noguchi of the Rockefeller Institute and Alexander Tison.

* * *

World Problem of Japan

875,385 More Births in a Year

The following appeared in the *China Express and Telegraph*:

Mr. Gonnoske Komai, the famous Japanese poet, writing in the *Daily Express*, declares that whether Japan remains "second-rate once more" or not among the comity of nations, as New York proclaims, giving a summary of the views of leading diplomats on the changed outlook in the Pacific Ocean, it seems almost certain that Nippon is destined to have no peace at home, at least as far as her ever-increasing population is concerned.

"The natural increase of Japanese population in the year 1925 has just been officially announced. It is no fewer than 875,385—an increase of more than 125,000 over the average increase of 750,000 per year. The extraordinary increase in Japan's population for the year 1925 is due to the fact that there were a greater number of births and a considerable decrease of deaths. The actual number of births registered in Japan alone amounted during last year to 2,086,091, comprising 1,060,827 boys and 1,025,264 girls, and showing the ratio of increase of 34.92 per 1,000. It is a matter of great interest to note the actual details of how such an unprecedented increase in Nippon's population came about. The number of marriages registered reached 521,438, an increase of 8,308 compared with the preceding year, 1924. There were divorces of 51,687, showing a decrease of 83 cases, although the divorces in Japan are estimated much higher than those of other countries. Besides the number of deaths, amounting to 1,208,706, consisting of 621,357 males and 587,349 females, there were 124,403 cases of still-birth, showing a decrease of 1,436 compared with the year 1924 (ratio, 2.08 per 1,000).

"If we add to the above those of Japan's dependencies—namely, Korea, Formosa, Saghalin, South Sea Islands, and Kwangtung Province in Manchuria, as well as those outside the empire, we see:—

Marriages	525,181
Divorces	52,061
Births	2,127,437
Still-births	124,406
Deaths	1,229,222

The following will show the exact number of Nippon's population :—

	Oct. 1, 1925	Oct. 1, 1920	No. of the Increased.
Japan Proper	59,736,704	55,963,053	3,773,651
Korea	19,519,927	17,264,119	2,255,808
Formosa	3,994,236	3,655,308	338,928
Saghalin	203,504	105,899	97,605
Sum total	83,454,371	76,988,379	6,465,992

"Now a most important question which confronts not only the thinking Nipponese, but also the citizens of the world outside Japan, arises : Whether Nippon's people are going to continue to increase for ever in such an astounding ratio ?

"Is it, then, safe for the future peace of the world to allow the present state of affairs of Japan's population to take its natural course unarrested ?"

But does it not occur to the author that Japan does not live to secure the future peace of the world but to secure the peace and prosperity of Japan. There is too much eye-wash in political discussions in this pseudo-philanthropic era. No nation reduces its population to satisfy its neighbors. The United States, for instance, does not increase or reduce its immigration, to please anyone but the American people. Holland does not encourage birth control to please, let us say, Germany and the Germans do not encourage large families to please France. There is too much false logic in these suggestions. If economic and social conditions in Japan encourage an increasing population, Japan need consider no other criterion but the welfare of the Japanese people.

* * *

British Trade With China

A Remarkable Showing

THE report of the British Board of Trade for the first nine months of 1926 is of special interest as reflecting not only the effects of the British coal strike but of conditions in China. This report bears out the much criticized statement of Mr. Chamberlain earlier in the year, when he remarked in the House of Commons that the Maritime Customs trade returns for China showed that the British position was not quite as disastrous as it was made out to be. The official British trade report for the first nine months of 1926 shows that British exports to China increased £2,547,000 over the same period of the preceding year but the imports decreased £1,586,000.

During the above mentioned period total British imports had decreased £60,000,000 and British exports £83,000,000. The greater part of this loss arising from the coal strike and consequent decrease in production, is now shown to have occurred in shipments to other countries in Europe, which decreased £54,114,000 from 1925. Of that decrease £9,315,000 occurred in exports to France, £15,042,000 in trade with Germany, £5,369,000 in trade with Italy and £6,676,000 in trade with the Netherlands. England's imports from France decreased £5,892,000, from Italy £3,256,000 from Switzerland £5,742,000 and from Spain £1,886,000. But imports from Germany increased £15,372,000 during the period and from the Netherlands £4,262,000, both probably representing importations of coal.

Exports to foreign countries, outside of Continental Europe and the British Empire, decreased £15,947,000, of which decrease £772,000 occurred in trade with the United States, £3,410,000 in trade with Argentina, £2,355,000 in trade with Brazil and £3,954,000 in trade with Egypt. Somewhat strikingly, however, British exports to China increased £2,547,000. Importations by England from the United States decreased £18,564,000 during the nine months, from Chile £3,592,000, from Egypt £3,995,000 and from China £1,586,000.

In view of the determined boycott of British goods in China and all the other impediments to trade arising out of civil war, the above showing is remarkable.

The Wool Tie-up in North China

UNTIL unification comes, will the immediate enforcement of the so-called Washington surtaxes as proposed by the British Note in any way advance foreign trade interests in China ? Will it put an end to illegal taxation now enforced to swell the war-chests of the militarists ? One of the most illuminating reports on trade conditions in China, bearing on this important point, has been received in New York by one of the largest carpet wool importing firms in the country. Contrary to all reports that that the wool tie-up in China is becoming less drastic, the advices received indicate that the situation is even worse than formerly. Some wool held at Kalgan has come through, it is declared, but the great mass of stock is still out of reach. Rail conditions in China have become more tangled during the past 90 days. The bulk of the cargo at Kweihwacheng, a distance of about 600 miles from Tientsin, and particularly at Paotow, is still there and cannot be moved, due to the impossible conditions on the railways.

Large quantities of wool awaiting transport at Paotow are exposed to the weather, and fast rotting, as they have been there since the summer of 1925. There is no chance of moving them in the near future since General Feng Yu-hsiang will not allow any car to leave that station unless it has been replaced by another of the same capacity, and the few carloads which arrived from Paotow a few weeks ago were discharged and reloaded at Kweihwacheng, Fengchen, Tatungfu, Kalgan and Fengtai, respectively. The reason for the frequent changes is that the generals in the different sections will not permit cars to go out of their districts, being apprehensive that they will not be returned, as once out of their sight, they are not seen again.

Naturally, all these changes and the extortions that are levied at each place of change make the cost of transport out of proportion. As cars are also scarce, being used for barracks, and most of the locomotives are out of order, the Kalgan Railway over which 80 per cent. of the wool is transported beyond Kalgan to Paotow, may for all practical purposes be said to be totally tied up.

The railway from Kalgan to Tientsin is working with great difficulties, short of engines, and has less than 20 per cent. of its rolling stock available for cargo. If the military should at any time begin to move again, it would at once be brought to a standstill.

About 5 per cent. of the wool comes to Tientsin over the Peking-Hankow line, which is working, although almost ruined, and about 15 per cent. comes from Mukden and Chingchow, which line has been working quite well. It is over this line that nearly all of the wool has come into Tientsin during the last four or five months, but latest advices from Mukden and Chingchow are that there are no more stocks of wools at these centers at present.

An idea of conditions in North China to-day can only be obtained by taking the actual charges levied on a merchant who transported a mixed cargo from Peking to Kweihwacheng recently. The customs duty, transit duty and Peking octroi were, of course, paid before he got the cargo to Peking, in addition to any 'squeezes' levied by the military on the railway between Tientsin and the capital. Beyond Peking no less than nine different taxes were imposed at various points, amounting to 50 per cent. to which must be added 10 per cent. for the above mentioned import, transit and octroi duties, and probably another 15 per cent. to 20 per cent. bribes and extra freight on the railway between Tientsin and Peking.

These charges are typical examples of the illegal tariff exactions against which it is useless to protest, and the price of the little wool that comes through from Kweihwacheng and Paotow, where the only stocks of any account are located, is prohibitive on account of all the charges and 'squeezes' en route.

Inasmuch as the stocks at these centers have been there for over a year and a half and are likely to remain there for another year or six months, since the Kuominchun in control are not releasing any cars, the interior merchants have refused to buy wool which would probably be left to rot at railhead. As small quantities have found their way into Tientsin from time to time during the past year, instead of two seasons' supply at Kweihwacheng and Paotow, there is not even one season's supply.

And with all these difficulties, squeezes and exorbitant taxation, the trade of China keeps increasing. What the increase would be under a few years of stable, honest government should make the mouths of the militarists water. After all, that is what they are fighting for.

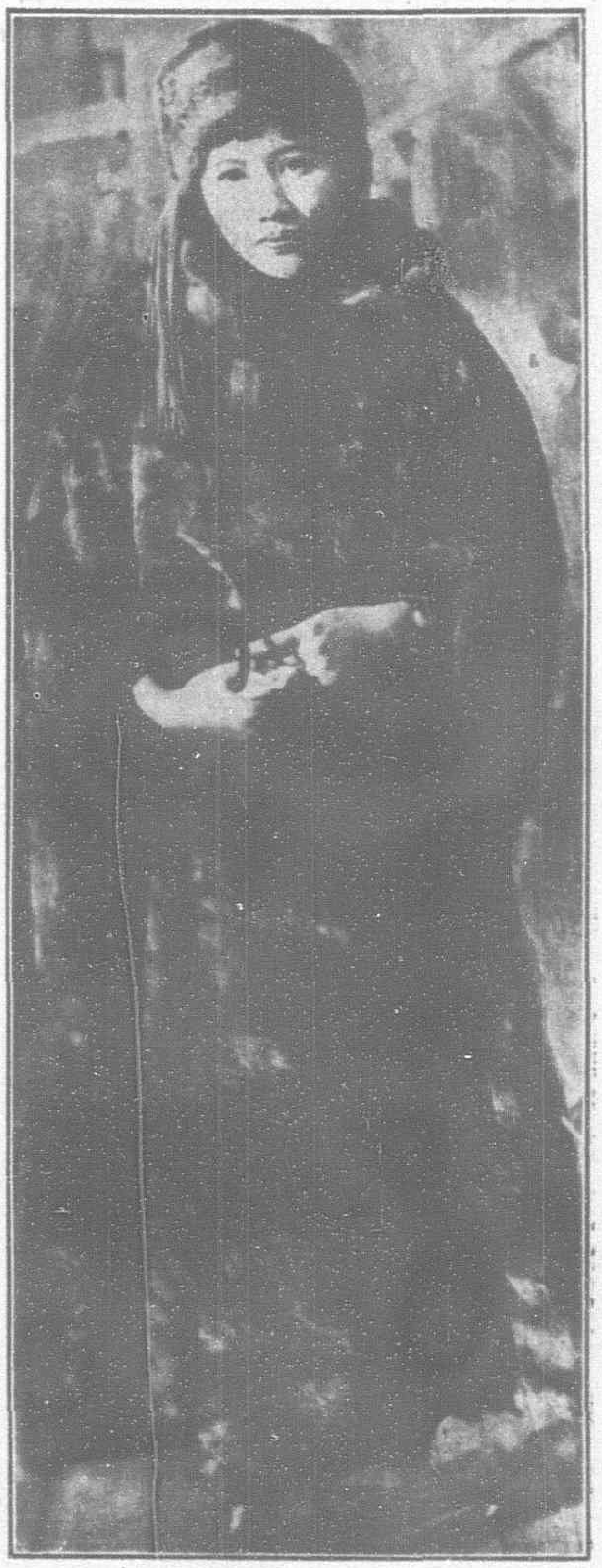
The Conflict of Policies in China

Nationalists So Dominated by Soviet Russia Unable Follow a Realistic Pro-Chinese Policy; Great Britain Striving Save Trade with Honor while Japan Still Formulating Basic Policy Affecting Political Position Manchuria and Economic Interests in Yangtze

AS long as the Nationalists in China were struggling for political and racial equality, the sympathy of progressive men in all countries were with them. In fact, one found only in the Kuomintang and among the followers of Dr. Sun Yat-sen a concrete program for the development of China as a modern nation. The northern militarists with their endless, mad feudal wars offered no hope of ever bringing the revolutionary period in China's history to an end. The rejection of Dr. Sun, by Great Britain and the United States, the tacit support of the Northerners by the resolutions of the Washington Conference, threw Dr. Sun Yat-sen and the Kuomintang into the hands of Soviet Russia. At first, the Russians supported Dr. Sun and did not openly attempt to influence his views. Secretly, they organized the Communist Party of China, a secret organization which has members in every city and which is effective in organizing labor troubles. Soon, the Communist Party was strong enough to demand that Dr. Sun admit them into the Kuomintang. Soon enough, they had divide the Kuomintang into cliques and their weight counted in strengthening leaders whom they momentarily favored. Finally, Dr. Sun Yat-sen died and the question as to his successor to the leadership of the party followed.

The natural political successors should have been Hu Han-ming or Wang Ching-wei. But General Chiang Kai-shek was in command of the Nationalist Army and he managed to force the party to recognize his superiority. He was, for a time, assisted by Mr. Borodin, the Soviet Russian advisor of the Political Bureau of the Party. But Canton and the Kuomintang were not large enough to hold both Chiang Kai-shek and Borodin and last March, the former attempted an anti-Communist coup d'etat with a view to the elimination of all Russians and Communists from the southern government. This coup d'etat failed, for the Kuomintang was soon engaged in an expedition against the north and had to have arms and munitions. Soviet Russia alone could and would provide arms, munitions, money and organizing ability. General Chiang Kai-shek was forced to betray his comrades of the Kuomintang and again to submit to the Communist Party of China and to the influence in China of Soviet Russia.

The success of the southerners in the Yangtze Valley last autumn was not the success of arms. The Russian drill-masters and Russian strategists did not prove themselves the equal of Marshal Sun Chuan-fang. The war was won by bribery and by the use of the agitational weapon. Preceding every army and following it, came the agitators with their slogans and their anti-foreignism and their sensational attacks upon vested interests, which had the effect of intimidating all the pacifists in any Chinese community. This agitational weapon was so effectively used that Marshal Sun's army melted away in Kiangsi and the Nationalists who, for fifteen years, had been outcasts holding, only for part of the time, one city of the whole of China, suddenly found themselves the masters of five provinces.



Mrs. Sun Yat-sen, Leader of the Women's Movement

Some Constructive Minds

There are constructive minds in the Kuomintang who saw the opportunity of accomplishing a tremendous forward step for China. Mr. Eugene Chen, who was Minister of Foreign Affairs, Mr. T. V. Soog, the Minister of Finance, Generals Chiang Kai-shek and Tang Seng-chi in charge of the army, the Right Wing leaders in Shanghai, such as Dr. C. C. Wu, Hu Han-min and Tong Shao-yi, who at the time was in south China, all realized what a tremendous opportunity faced their party. They could consolidate their position in the five provinces. They could give the provinces such a government as China had never known. They realized that they held the sympathy of the world and that even such imperialistic powers as Great Britain and Japan were more than ready to meet them more than half way. Sir Miles Lampson, the British Minister to China, Mr. Saburi of the Japanese Foreign Office and Mr. F. Mayer of the American Legation in Peking arrived in Hankow almost as soon as the Nationalist Government did, in the hope of finding a settlement of outstanding questions between the new power in the south of China, in the Yangtze Valley and the Treaty Powers.

But the Russian influence and the Communist Party of China spoiled everything. What started as a simple anti-Christian demonstration during Christmas week, developed into a wild, uncontrolled, boxerish movement which resulted eventually in the evacuation of all foreigners from Szechuan and Hunan and the evacuation of all foreign women and children from Hankow and Kiukiang. Hupeh and Kiangsi became desolate. Trade stopped. The mob seized the Hankow Concession. Missionaries who had devoted a life-time to service to China, were driven forth in the night as Imperialists. It was a wild orgy of hatred. But it was not a Chinese orgy. The Chinese laborers and students who participated were but the tools of a sinister force which Japan attempted to keep out of China in 1918-19 but which the American Government and the British Government indirectly protected by impeding Japan's activities in Siberia. The Russian influence is not solely responsible for the events in Hankow on January 3. There is a long history behind those events—a history which goes back to the Taiping Rebellion and the wars with the foreigner in 1842. But Soviet Russia is responsible for the unprincipled methods, the unchivalrous conduct, the bitterness of the attack. Soviet Russia is fighting Great Britain and Japan on Chinese soil and only the most clear-sightedl eaders of the Kuomintang realize the sinister perfidy of the Soviet program.

Britain Replies with Force

Great Britain has answered the challenge with force. Great Britain has made it clear to the Nationalists and to the Chinese people that the British are prepared to give up all their extraordinary rights in China, all the unequal treaties, everything, but that they will not agree to having those things wrested from them by a mob. Great Britain is sending an army and a navy to China to protect Shanghai and to protect British subjects and their property in China. The United States is on the whole, supporting the British policy, which is now unimperialistic, but is nevertheless a forceful policy. For Britain is prepared to lose everything in China, but she cannot tolerate a situation in which the British flag is spit upon and British women insulted. Great Britain has too many interests at stake in Asia, in India and Malay to take that type of conduct lying down.

Chen Kung-po, Leader of the Extremist Labor Element

At the same time, the British are frankly hoping that they will be able to end this situation without bloodshsed. For bloodshed leaves an indelible stain upon the Chinese memory and the British still hope to save their trade here. They still hope to do business with the Chinese people as their customers. Therefore Mr. O'Malley of the British Legation and Mr. Eugene Chen continue to negotiate and it would be a simple matter for them to come to terms were it not that Mr. Borodin stands in the way and calls the Political Bureau to a halt every time they are about to reach an agreement with Great Britian.

Soviet Russia has not come into China and supported one faction against the other for nothing. Soviet Russia has not sent arms and munitions, has not actively intervened in the affairs of China, for nothing. Soviet Russia seeks the destruction of British, Japanese and American influence in China and if the Kuomintang cannot do that job for them, they will seek other parties. The British Government realizes that they are fighting Soviet Russia in China; they only hope that they will not have to shoot down Chinese people in the struggle.

Japan's Complex Problem

Great Britain's task is an insuperable one and more or less has to be done alone, if anything is to be accomplished. But Japan's problem is even a more serious one. Great Britain has all the world as a field of political and commercial expansion. Japan is economically dependent upon China. Japan has invested huge sums in Manchuria and must therefore be at peace and have the good-will of the Chinese in control of that country. Japan has invested huge sums in the Hanyehping company which is now in the territory of the Kuomintang. Japan has acquired an enormous spindlage in cotton mills in China and employs 70,000 laborers, Chinese laborers, most of whom are under the influence of the Kuomintang. Japan has an investment in Shanghai which equals and may exceed the British investment. Japan is not engaged in missionary activity and therefore has no women and children to protect in the interior, except a rare commercial agent or a consul who lives in some interior port with his wife. Britain's program is comparatively a simple one: "we shall offer the Kuomintang", they can say, "our irreducible minimum and if they don't take it, we shall protect ourselves." Japan cannot afford to offer the irreducible minimum. Japan has to save whatever she can of these enormous investments upon which Japan depends for her economic development and in the case of Manchuria, for huge supplies of raw material.

General Wu Teh-chen, Arrested and Imprisoned because of his Opposition to The Russians

General Chiang Kai-shek Commander-in-Chief of the Kuomingtang Army

Sun Fo, Son of Dr. Sun Yat-sen, Whose Politics Fluctuates from Extreme Right to Extreme Left

Japan is further affected by the fact that as an oriental nation, she cannot with the consent of her own people, join with the Europeans in an attack on a party in China which is fighting for political and racial equality, even if that party is utilizing unjustifiable weapons. Japan's struggle for political equality is so recent that many still remember the opposition which was raised against the abolition of unequal treaties in that country and although it is true that Japan achieved her equality by internal reconstruction and by an unsparing sacrifice of her manhood on the field of battle while China is doing nothing constructive during the whole revolutionary period, nevertheless, for the Japanese to admit that an oriental nation like China is incapable of governing itself is more than can be expected in the present temper of the colored races. The Japanese then are viewing the struggle toward self-government and national equality on the part of China with the greatest sympathy; yet it is impossible for Japan to ignore the fact that in the event of a governmental vacuum in China, it will be Soviet Russia which will step in and that Soviet Russia will destroy the whole of Japan's huge investments in China, will interfere with Japan's food and raw material supplies and will eventually force upon Japan a war in the Pacific. Japan's whole policy in China at this time seems to be based upon the idea that there is still a possibility of Japan supplanting Soviet Russia as the best of kin, as it were, of the Chinese people. And there is no reason to believe

(Continued on page 75).

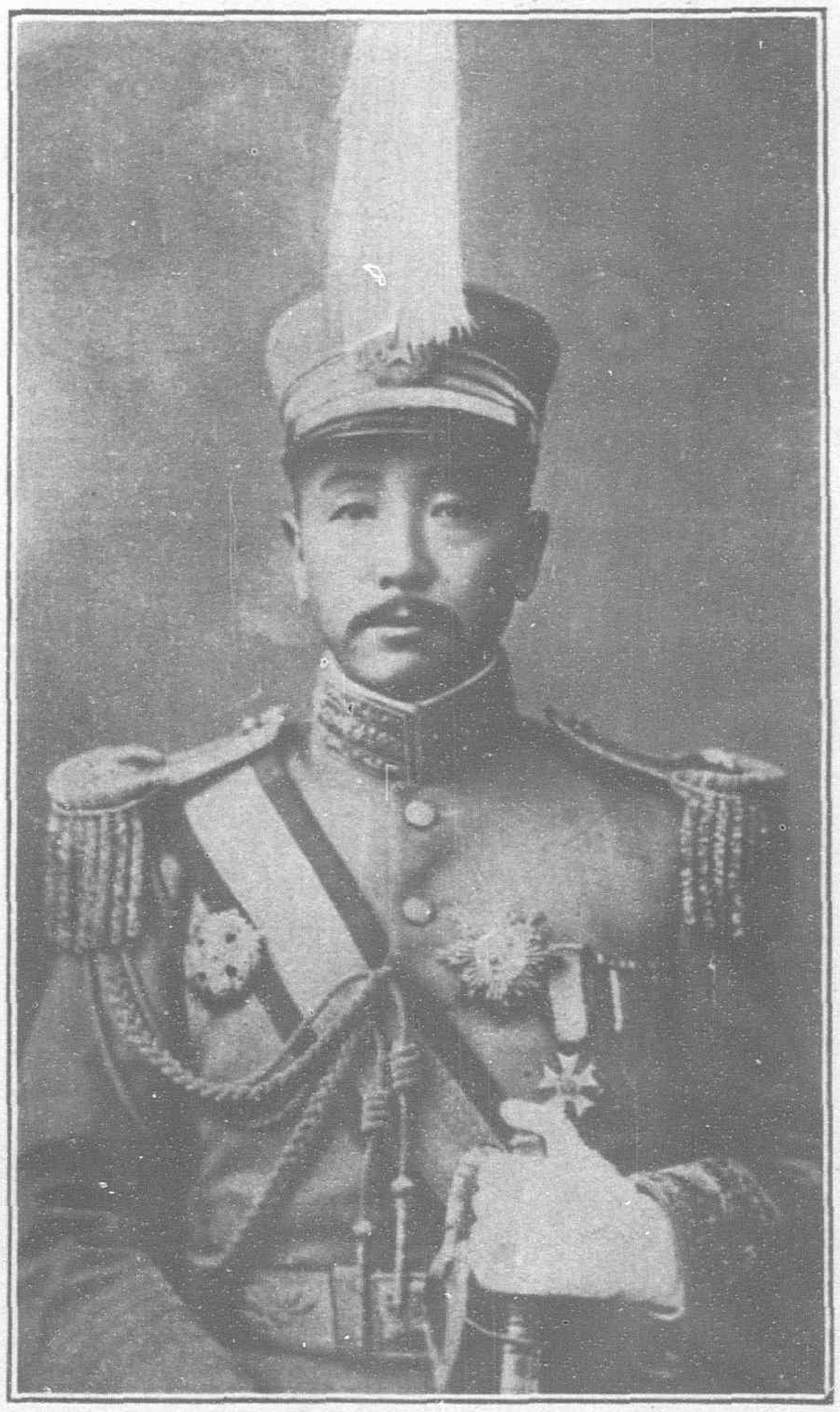
Political Troubles and the Maintenance of Trade

WHEN the last Report on the Economic Situation in China was written a year ago, foreign trade generally, and British and Japanese trade in particular, was in the grip of a comparatively well-organised strike and boycott extending over large areas of the country, and involving shipping, industry and commerce alike. The past twelve months have witnessed a great improvement in these peculiar conditions in so far as North and Central China are concerned, writes Mr. A. H. George, Acting British Commercial Secretary at Shanghai, in his *Report for the period ended June 30 last. The intensive boycott of everything British continues, however, in the South, particularly at Canton and Swatow, and the losses already incurred by Hongkong firms are very condiserable. In this area there was at the time of writing scant hope of any immediate change in the situation. In Shanghai, where the boycott originated, and in the province forming its hinterland, there is now little or no hindrance to foreign trade from this cause, though labour agitation in local industries, both foreign and Chinese-owned, is still rife, resulting in numerous strikes, and there is a very articulate element, particularly among the students, which is always ready to fan the flame of nationalist feeling into practical opposition to foreign commerce and foreign privileges of all kinds.

Britain and Japan, as having the biggest share of the trade and the most powerful vested interests, have been the natural targets of the greater part of this agitation, which consistently ignores the economic welfare of the country itself. The traditional friendliness of the commercial relations between British and Chinese still counts for something, but the good will and common sense, even the self-interest, of the native trader are apt to be swept aside by the flood of this newly awakened national sentiment, which is, on the other hand, powerless to stem the tide of national disintegration.

Political Chaos

Never before in the brief history of the Republic has the disorganisation of the machinery of government reached such a pitch as it has during the past twelve months. At the moment of writing there is to all intents and purposes no central administration capable of exercising any degree of control over the provinces, the leading military figures being unable to compose their personal differences sufficiently to agree upon the formation of a cabinet or even a future form of national government. Large areas of China have become virtually independent states under military chieftains constantly at war with one another, and dependent upon subordinate generals whose loyalty they can only command if they have sufficient lucrative posts to bestow among them. In such circumstances it is only the Chinese genius for local government which saves the country from complete chaos, and it is plain that, as long as these conditions remain, the evils that have hampered foreign trade for years past are only likely to increase. The imposition of countless forms of local taxation has assumed unprecedented proportions in several provinces, exceeding in some parts the value of the goods themselves. The railways have almost without exception become a prey to the militarists, or rather to subordinate commanders, who, unrestrained by any controlling organisation, habitually use them for the carriage of troops and material without attempting payment, putting up to auction any cars and trucks they do not require for these purposes. The privileges accruing to foreign trade in China under treaty and agreement are in fact everywhere at the mercy of the military leaders, who are scarcely bound by loyalty even to a particular faction, much less to any form of national government, and it is perhaps a matter for congratulation that under these circumstances the results have not been more serious.



Marshal Chang Tso-lin the Ruler of North China

Maintenance of Foreign Trade

It would serve no purpose in this Report to give even a brief sketch of the political disorders in China during the past year. Whatever the causes at stake, or the personalities involved, the results are as they are described above. And with this picture in mind, the surprising fact once more remains to be stated that the revenues derived from the legitimate taxation of foreign trade through the Customs administration in 1925 again exceeded all previous records, although the rate of progress was not so great as in recent years. What certain of the main ports of import and export, such as Shanghai, Hankow, Canton and Swatow, lost in revenue owing to local disturbance, was gained by others, such as Tientisn and the Manchurian ports.

The question at once arises as to how the foreign trade of China can maintain its level in the face of such adverse conditions. The answer is that, in the first place, the disturbances are mostly local, affecting first one and then another part of the country, but rarely involving the whole country at once, and secondly, that a large proportion of the trade is carried on in and through the so-called treaty ports, where there is comparative stability, largely due to the presence of well-organised foreign settlements. Although only a comparatively small fraction of the total native population of the country resides in these ports, recent expert estimates have put the proportion of foreign imports consumed in them at between 35 and 50 per cent. of the whole. The disturbed condition of the country in recent years has also led not only to the concentration in these areas of most of the modern industrial organisations, which import considerable quantities of raw materials and machinery, but also of the wealthier classes of Chinese, and there is little doubt that a fair proportion of imported goods go to supply the wants of these classes, which have accustomed themselves in many respects to foreign modes of life.

Finally, it can only be supposed that the present demand for foreign goods is in the nature of an irreducible

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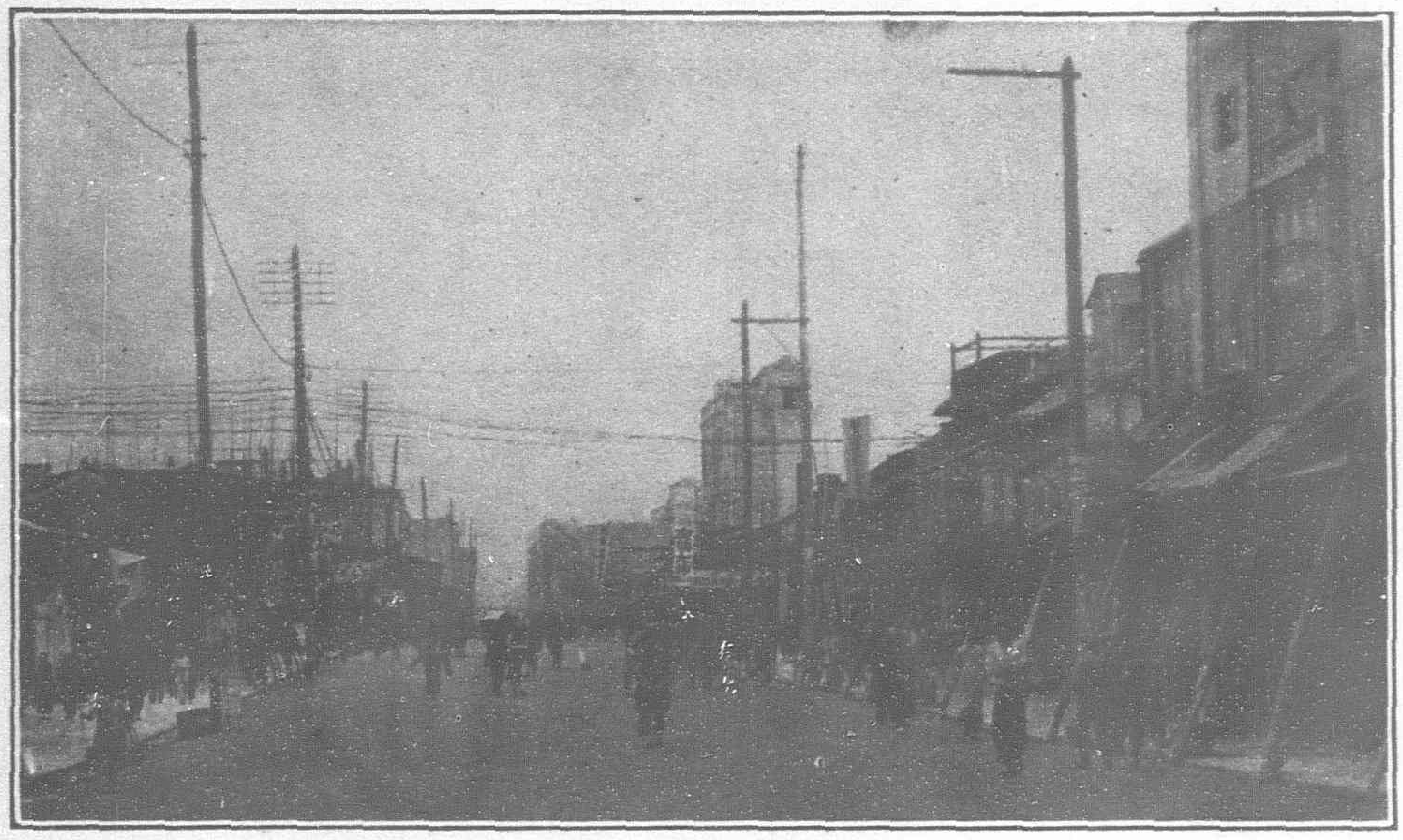
*Report on the Commercial, Industrial and Economic Situation in China, by Mr. A. H. George, Acting British Commercial Secretary, Shanghai, together with a Report on the Trade of South Manchuria by Mr. O. White, British Consul at Dairen, to be published shortly for the Department of Overseas Trade by H. M. Stationery Office.



One of Canton's New Avenues

minimum, which local disorders cannot further affect, and in this connection it is of interest to note that the foreign technical advisers at the Customs conference now being held in Peking came to the conclusion that only 20 per cent. of the present foreign imports could properly be classed as luxuries. The present state of affairs, however, with vast quantities of native produce for export piled up along the railways, and no security for foreign goods in the interior either in transit or at destination, must necessarily have a depressing influence on the purchasing power of the people, and the presumption is justified that with any improvement in conditions there will be a notable and immediate increase in foreign trade. Just how such an improvement is to be effected in a country which appears for the time being to be incapable of establishing a reasonably strong central administration is a question which interests the trader as much as the politician, but is not one to which an answer can be attempted in this Report.

Chinese Labor Organisation

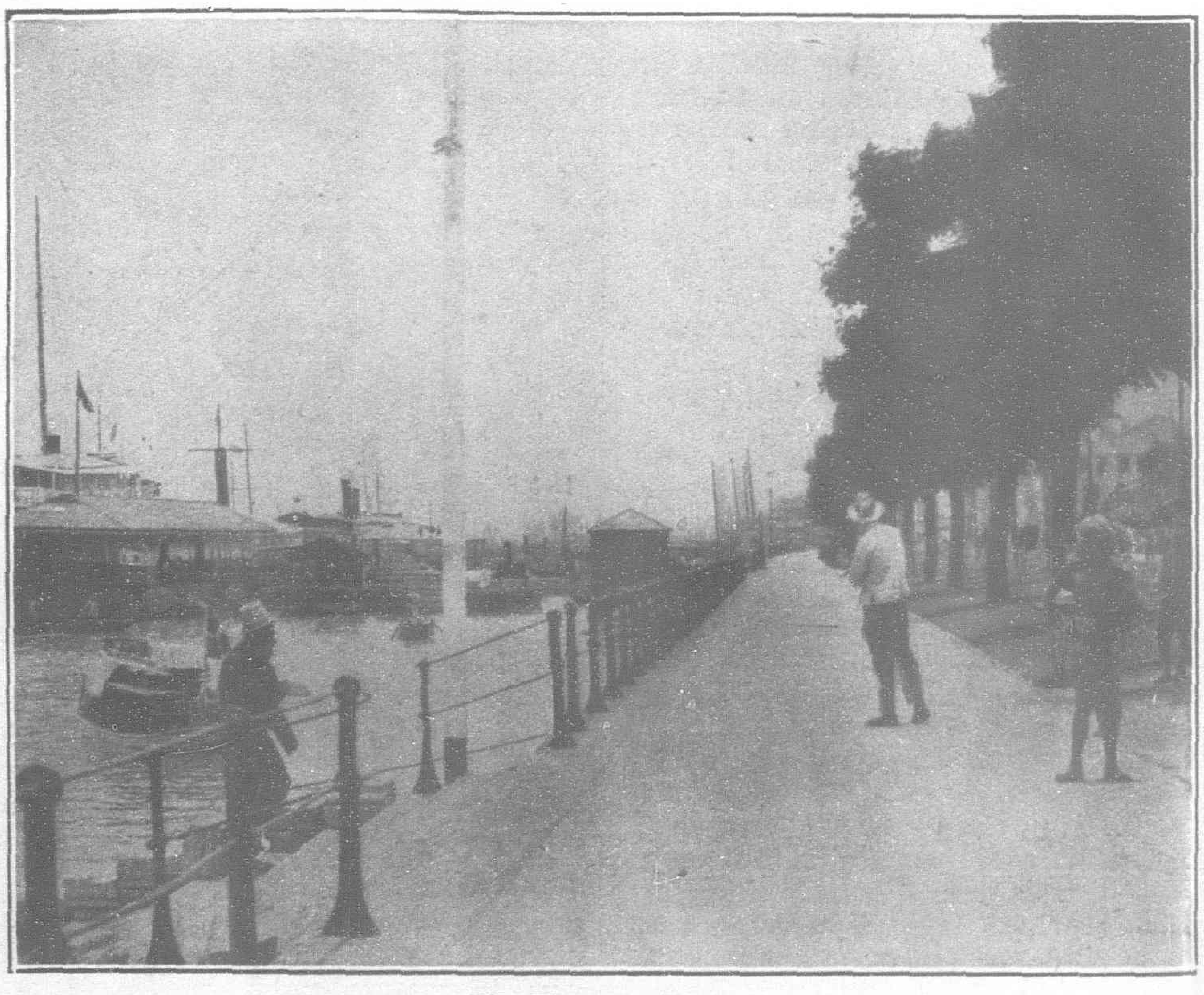
Apart from the fact that it produced the biggest strike which has yet occurred in the industrial history of China, the year 1925 will be identified with the rise in this country of "organised labor" as the term is understood in Western lands. This was the direct result of the strikes that occurred in the Japanese mills at Shanghai in February, 1925. These strikes were responsible for the organisation of a laborers' club which took the lead in all subsequent disturbances and was the nucleus round which was formed the so-called General Labor Union. This latter organisation, the most powerful of its kind ever known in China, played a great role in the general strike, which followed the Shanghai incidents of May 30, 1925, in which British and Japanese industrial establishments were affected alike. Though to-day officially suppressed, it still pursues a clandestine existence, and it is not to be doubted that the labor union on Western lines has come to stay. As to the trend of the movement, it need only be remarked here that the Second National Labor Congress, held in Canton in May, 1925, decided to affiliate itself to the Red International of Labor Unions rather than to the Amsterdam International, showing clearly the revolutionary influences that are at work in this country.

The greater tendency to labor agitation is illustrated by the fact that 83 labor disputes occurred in Shanghai in 1925, in addition to the general strike, as compared with 44 in 1924. Apart from general dissatisfaction with prevailing conditions, these disputes arose from increasing depreciation of subsidiary coinage and the rise in the cost of living, partly due to the high price of rice, which is ascribed to the manipulations of speculators rather than to any genuine shortage. A recent feature of industrial disturbance has been the hostility between factions belonging to different provinces.

Industry and Production

While a few industrial establishments in China will be able to look back upon the past twelve months with some satisfaction, the year cannot be said to have been a prosperous one on the whole. There is no question about the rapid advance of modern factory production in this country under normally peaceful circumstances, but the instability of political conditions renders any real progress impossible at present. The market for native factory products is largely an internal one and the existing unrest seriously diminishes the purchasing power of the people, while the transportation alike of the raw material and the finished product is a matter of hazard. A large proportion of the industrial concerns in China are situated in the foreign settlements and concessions, or, at any rate, in the Treaty Port areas. Those that are not are frequently subjected to official interference or even taken over by military leaders. In some cases foreign ownership or foreign management alone spells protection, which is, however, offset by anti-foreign prejudice and hostility to foreign control. While Chinese management in a few industries compares favorably with that of other countries, in others it is inefficient and uneconomical, and discipline is lax. Labor agitation is constantly on the increase and requires wise and careful handling. Though raw material may be cheap and plenty, and a large potential demand at hand, the path of the industrial promoter in this country is a thorny one, and it is not surprising that the Chinese show marked distruct when they are asked by their fellow-countrymen to invest money in industrial concerns.

Figures of export of Chinese factory products in 1925 show that China still plays only a small part in the industrial markets of the world. Compared with 1924, there was a considerable decline in exports of cotton goods, particularly of yarn, which dropped in value from 7.5 million dollars in 1924 to 3.7 million dollars in 1925.



The Hankow Bund

Similarly, the export of wool and cotton unions, and of woollen goods, dropped to practically nothing in 1925. There was a rise in the value of exported candles, cement and cinematograph materials. The last represents an interesting development in Chinese industries. There are some 50 native companies in Shanghai alone engaged in the cinematograph business, many of them in a very small way, while one British company is embarking on film-production on a comparatively large scale. The export of electric lamps trebled itself in 1925. The value of mill flour exported increased from .07 million dollas in 1924 to 1.2 million dollas in 1925. There was an increase in the export of matches, but while 3.4 million gross were exported in 1923, the figure for 1925 was only 0.4 million gross. The Chinese match-making industry had a good year and continues to compete successfully with the imported product, even the Japanese. This success must be ascribed principally to lower costs of production, but partly also to prejudice in favor of native manufactures and the absorption of some of the smaller concerns by the more powerful factories. An interesting feature of this business is the recent endeavor of Swedish match interests, which supply the bulk of the imported product, to secure control of native factories. The British cotton printing works at Shanghai mentioned in last year's Report has now completed its installation of machinery, and hopes to start printing on a considerable scale immediately. A proposal to establish a large Japanese dyeing and finishing works at Shanghai is reported, but has not apparently progressed beyond the purchase of land. A Chinese sugar refinery near Shanghai organised in 1920 commenced work in December last. With German machinery, it is said to have a producing capacity of 300 tons of refined sugar a day, but it appears to suffer from the need of additional capital. Reports of the establishment of industrial concerns in various parts of the country, with imposing figures, are constantly published in the press, but they frequently represent little more than schemes on paper.

Foreign Trade

The Annual Customs Returns for 1925 show that the total foreign trade of China in merchandise was valued at 1,724,217,881 Haikwan taels, a decrease of 65,777,264 taels compared with the preceding years' value, though exceeding the 1923 figure. The decrease was entirely in imports, which were 70,345,733 taels less in value, the figures for exports of Chinese produce exceeding those of any previous year, being 4,568,469 taels in advance of the 1924 figures. Taking the net values of imports and exports, the result is an unfavorable balance in China's foreign trade of 171.5 million taels, as compared with 246 million taels in 1924 and 170 million taels in 1923.

The trade with Hongkong shows a decline when compared with 1924 of 65.5 million taels in net imports and of 58 million taels in exports. This decrease may be accounted for partly by the boycott declared against the Colony by the southern ports of China, and partly by the fact that certain transhipment cargo, which in previous years may have appeared in the Customs statistics as originating from or destined for Hongkong, has probably been recorded during 1925 as arriving from or going to the actual country of origin or destination. In this connection, large increases are to be noted in the direct trade with Singapore and the Straits Settlements, and with the Dutch Indies. Trade with Great Britain showed a decrease of 32.8 million taels in imports and 2.6 million taels in exports. The direct imports trade from Japan shows the large increase over 1924 of 66 million taels, while the export trade to that country declined by 14.8 million taels, showing a balance in favor of Japan of 109.9 million taels, as compared with 28.6 million taels in 1924 and 6.7 million taels in 1923. Imports from the United States of America fell off by 47.7 million taels, though there was an increase of 42 millions in exports. There was a notable increase of 21 million taels in exports to France, and of 4.8 million taels in the direct trade with Russia and Siberia. Net imports from Canada are given at 7.1 million taels in 1925 as against 15.5 million taels in 1924. It is difficult to reconcile these figures with Canadian trade statistics, which show very much larger exports than those from Canada to China, and it can only be supposed that a portion of the Canadian exports such as wheat and flour, which are frequently shipped from Seattle and other United States ports in American bottoms, are not shown as Canadian in the ships' manifests and are classed as American by the Chinese Customs on import into China.

The most notable increases in imports were in raw cotton, yarn, sugar, kerosene oil and coal, while there were considerable decreases in imports of metals, wheat and flour, cigarettes and tobacco, dyes, timber and machinery. The imports of cotton goods remained roughly the same as in the previous year, while woollen goods and wool and cotton unions declined. Exports showed large increases in silk and skins, hides and furs, while there was a decline in raw cotton, cotton yarn, beans, groundnuts and timber. It will be noted that there was, generally speaking, a decrease in the imports of goods in which Great Britain is most interested from a manufacturing point of view.

Once again a year of bad trade, hampered by every conceivable difficulty, such as political disturbance, brigandage, indiscriminate taxation, strikes, boycotts, increasing cost of production and of living, excessive competition and inability to bring imported goods to interior markets or produce to the shipping ports, has to be reconciled with high figures of import and export. The explanation is given in part in the survey of the economic position earlier in this Report. The fact is that the foreign trade of China is putting up a stubborn fight against every difficulty; obstructed in one place it finds an outlet somewhere else, where the goods of one country are unobtainable those of another are bought instead, when one port is closed business is transferred to another, where railways break down, traffic reverts to waterways. Such conditions do not make trading profitable either to the foreign importer and exporter, or to the native dealer, least of all do they benefit the foreign shipowner, but they prove that the trade is a lusty growth and that it needs little encouragement to forge ahead.

British Trade with China

The British merchant in China will remember the year 1925 as the year of the anti-British boycott, the consequences of which to British trade and shipping may be gauged to some extent by a glance at the tables attached to Mr. George's Report. It will be seen from these that imports into China from the British Empire (excluding Hongkong) dwindled from 197.27 million taels in 1924 to 160.55 million taels in 1925, while the British share of the carrying trade fell from 38.71 per cent. in 1924 to 28.14 per cent. in 1925. The boycott arose out of an incident which occurred in Shanghai on May 30, 1925, when several Chinese were shot by members of the police force of the International Settlement under the orders of a British inspector in the course of riots consequent upon the killing of a Chinese workman in a Japanese cotton mill. The immediate effect of this incident was the calling of a general strike by the Chinese Chamber of Commerce whereupon all Chinese shops and banks in the International Settlement were immediately closed. This was followed by strikes of workers in numerous industrial concerns, both foreign and Chinese, of employees in public utility establishments, domestic servants in foreign employ, seamen and firemen on British and Japanese ships, stevedores and cargo coolies, wharf and godownmen, laundrymen, carpenters, etc. No less than 80,000 industrial workers were unemployed in Shanghai alone a few days after the strike started. Before the end of June business in Chinese concerns was resumed on a normal basis, and the strike was gradually narrowed down to British and Japanese institutions (though Chinese industrial concerns were affected by the inability of the electricity department of the International Settlement to supply power owing to the striking of their employees) and finally confined itself to British interests alone. It was accompanied by violent propaganda, intimidation and bribery, and every effort was made to produce a complete boycott of British goods and British ships. During June the agitation quickly spread up the Yangtze River to Kiukiang, Hankow and Chungking, and down the coast to Foochow, Amoy, Swatow and Canton, where serious incidents occurred.

In the Northern provinces and Manchuria the boycott never obtained a strong footing, but in Shanghai and Central China generally it paralysed British coastal and river shipping for some four or five months and reduced the sales of certain classes of British goods to about a third of the normal, while at Canton and Swatow an anti-British boycott was declared which has lasted ever since, involving a complete stoppage of all direct British trade and the forcible prevention of all communication with Hongkong.

(Continued on Page 95.)

View of Vladivostok

The Port of Vladivostok

By P. A. Shablinsky

I. Transit Department

ON September 29, 1924, Soviet of People's Commissars, in order to facilitate the transportation of transit foreign goods imported to and exported from North Manchuria through the Port of Vladivostok, published a decree that a certain land and water area of the port of Vladivostok, sufficiently large and equipped for transit operations, be set aside. It was named the Transit Section of the port.

In accordance with the above decree the Far Eastern Revolutionary Committee on January 13, 1925, allotted to the Transit Section the port area between the second and eighteenth moorings together with all warehouses, open storage places, railway branches and other equipment as well as a strip of land along the coast line.

The allotted portion is a part of the port of Vladivostok well equipped for loading and unloading purposes (a detailed description is given in the chapter dealing with the technical equipment of the port as a whole) it is situated in the south-eastern part of the promontory of Egersheld, comprises more than 2 square kilometers of land, is surrounded by a wall, and guarded by the patrols of the Frontier Guards. The coast line exceeds 1,5 kilometers (1520,5 meters).

According to clause 4 of the above named decree, vessels arriving in this region for the purpose of unloading or loading for export transit goods require no special permission from the People's Commissariat for Foreign Commerce.

The goods are not subject to Customs examination and are, in general exempted from all Customs procedure.

All kinds of goods are allowed to be shipped through the Transit Section, except arms of military pattern, ammunition, and narcotics, such as opium, morphia and their preparations.

Goods stored in the warehouses of the Transit post may be delivered to local plants for manufacturing previous to their shipment to destination, on the condition that Customs officials supervise the removal of the goods to the plants and back to the warehouse after the process of manufacturing has been completed.

The storage period is 15 months, of which 12 are normal and 3 months of grace. During this time the consignor or his representative reserves the right of repacking, sorting, taking out samples, as well as taking measures to prevent the goods from being spoiled.

At the wish of the consignor, he may receive from the Administration of the Transit Section a special certificate (warranty) covering the goods stored in the warehouses. These certificates are negotiable instruments.

Thus, the entire structure of the Transit Section of the port of Vladivostok resembles that of a free port.

The most essential features thereof, as compared with typical modern free ports, are: firstly, goods arriving cannot freely enter the local market, and, secondly, the constitutions of the old free ports provide a longer period for keeping goods in warehouses.

The Transit Section was established with a view to attracting transit shipment to North Manchuria via the port of Vladivostok.

The following figures show to what extent this object has been attained in the one year and a half during which the Transit Section has existed:

	Imported to Manchuria via Vladivostok	Exported from Manchuria via Vladivostok	Imported to Manchuria via Vladivostok	Exported from Manchuria via Vladivostok
	In poods		% % of the whole amount of goods shipped through the port of Vladivostock	
1913	3.150.180	22.589.096	12,2	87,8
1914	2.586.000	21.517.317	10,7	89,3
1915	2.374.480	30.260.338	7,3	92,5
1916	4.036.000	24.491.686	14,1	85,9
1917	No inform.	27.137.591	—	—
1918	173.558	8.609.579	2,0	98,0
1919	1.287.000	7.003.040	15,5	84,5
1920	No inform.	4.366.942	—	—
1921	131.000	19.132.417	0.7	99,3
1922	144.000	32.575.345	0,4	99,6
1923	347.000	40.679.699	0,8	99,2
1924	ab. 450.000	45.482.713	about 0,9	about 99,1
1925	1.535.204	48.503.690	3,1	96,9
10 months, 1926	3,218.791	44.364.309	6,8	93,2

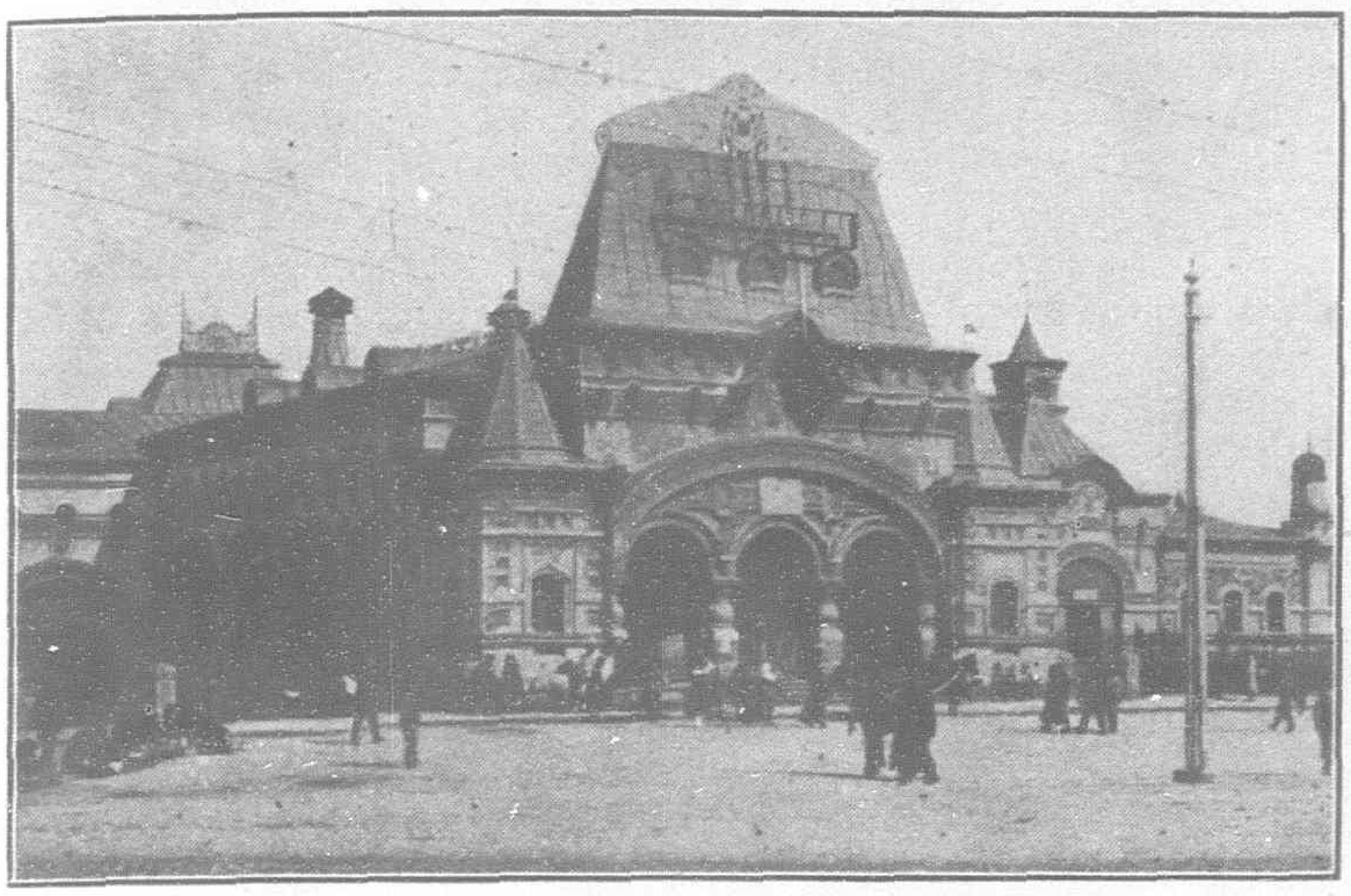
These figures show that during the first year (1925) of operation of the Transit Section the total amount of goods shipped to North Manchuria via Vladivostok was three times as much as in 1924, while during the fiscal year 1925/26 it was seven times that of the year 1924.

Among other results of the establishment of a free port in Vladivostok was the inauguration by "The Union of the Niederlandish Navigation Co.", during the first year of the existence of the Section, of express freight service between Vladivostok and ports of Western Europe.

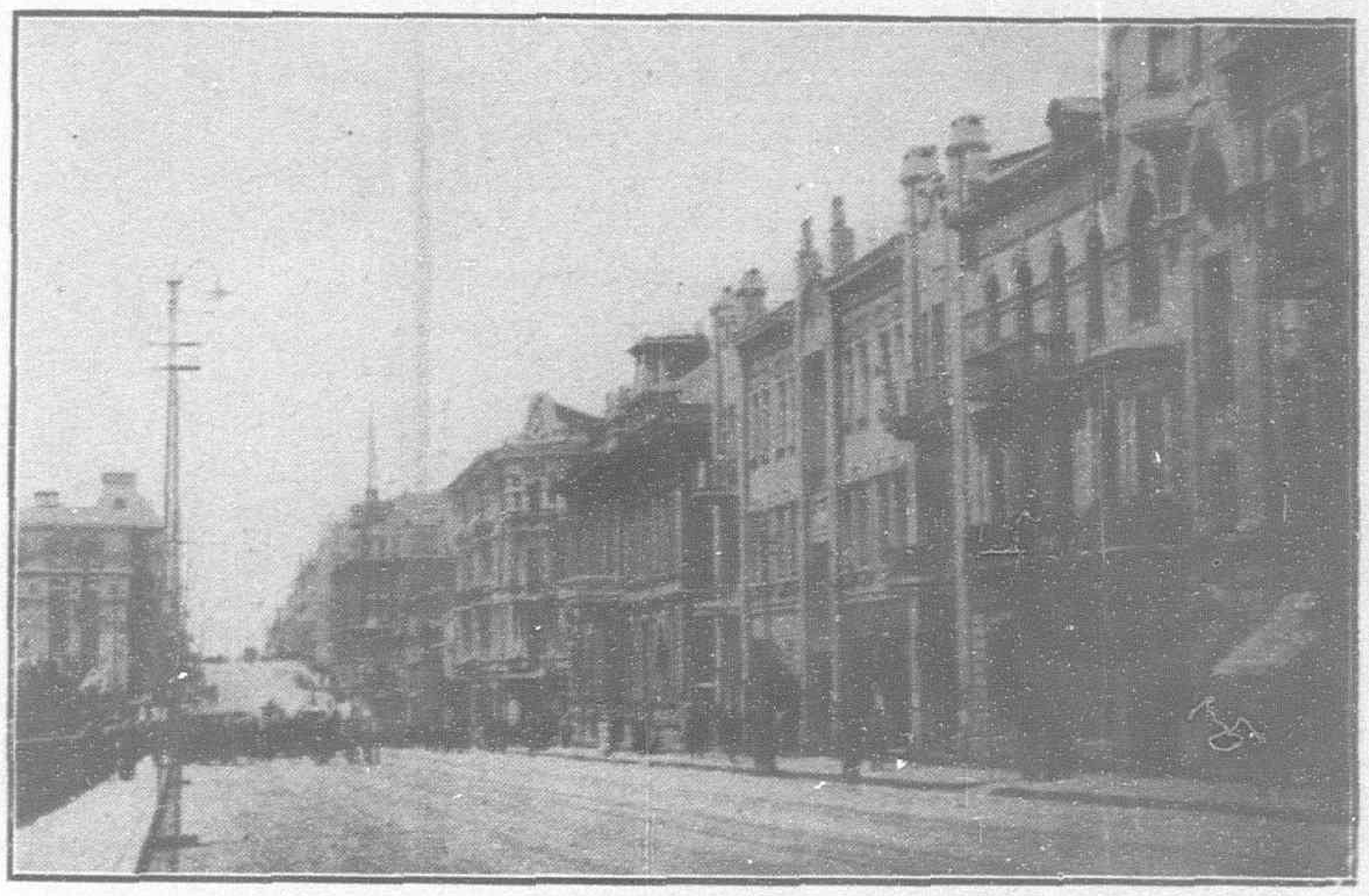
II. Facilities for Importers and Exporters Shipping Goods Through Vladivostok

Taking into consideration that transit shipments are in fact an exchange of commodities between foreign markets, and, as such should not be subject to taxes established for trade within the territory of the U.S.S.R., the Soviet of People's Commissars on March 11 published "Industrial and Stamp duty exemptions for enterprises conducting import and export operations through the Transit Section of the port of Vladivostok."

The outstanding features of this regulation and of the instructions issued by the Governmental Tax Administration relative to their application are:



Front View of Railway Station, Vladivostok



Svetolanskaya St., The Main Business Street, Vladivostok

1. Beginning April 1, 1926, the following enterprises are exempted from the industrial tax, viz.:

(*a*) Those importing goods to Manchuria through the Transit Section from foreign (in relation to the U.S.S.R.) countries ;

(*b*) Those exporting goods from Manchuria through the Transit Section to foreign (in relation to the (U.S.S.R.) countries ;

(*c*) Those carrying on both of the above operations ;

(*d*) Transportation commission and banking enterprises serving the above named undertakings or those partly connected with the import and export of transit shipments through the Vladivostok Transit Section both to Manchuria from foreign (in relation to the U.S.S.R.) countries and *vice versa*.

2. Those undertakings which combine the above named operations with others, subject to industrial tax, are taxed only with regard to the latter.

3. The exemptions mentioned in the two preceding paragraphs are applied independently of the place where a transaction was concluded covering the purchase or sale of goods shipped through the Transit Section of the port of Vladivostok, relative to their transportation or other services connected with import or export operations.

4. From the date of publication of these regulations stamp duty is not levied on documents having relation to :

(*a*) import of goods through the Vladivostok Transit Section to Manchuria ; (b) export of goods through the Vladivostok Transit Section from Manchuria ; (c) transit, commission, and banking operations in connection with import and export.

This law, which has facilitated and made export and import less expensive, and which has placed the export and import business via Egersheld on a financially definite and even independent footing was met by the commercial world of Manchuria with great satisfaction.

Since the moment of its going into effect a comparatively short time has passed, and it is not possible to judge of its effect upon the growth of the trade turnover of the port of Vladivostok but there is no doubt but that it will serve as a means considerably to increase not only the freight turnover of the port of Vladivostok but also that of the Chinese Eastern Railway in a direction which is more profitable to the latter.

III. Egersheld Transit Grain Exchange

The next important event in the life of the port of Vladivostok during the last few months has been the establishment of a joint stock company named the " Egersheld Transit Grain Exchange " in Vladivostok. It should be noted that produce exchanges in general and grain exchanges in particular are a historically important institution in the international commerce, the latter could not confine itself to passing goods from hand to hand but necessarily took form of buying and selling according to orders and samples.

The place of a natural market was taken in international commerce by a market " without goods " that is, by produce exchanges, at which raw materials are exchanged for manufactured goods, the transactions covering distances of thousands of miles.

In the history of the world commerce produce and grain exchanges have been a necessary institution of every more or less considerable port. The activities of the produce exchanges in the big ports have a great influence not only upon the increase of the general turnover of commodities between the manufacturing and consuming countries, but also on the direction in which those commodities are shipped.

The rules regulating the activity of the Transit Grain Exchange are fully printed in the September issue (No. 36, of September 5, 1926) of the " Economic Bulletin."

The essential features of these rules are as follows :

1. Members of the Egersheld Transit Grain Exchange can be corporations and citizens of the U.S.S.R., the Chinese Republic and other states, provided they are engaged either personally, or on behalf of third parties in trading operations or the manufacturing of grain and accessory products or have some auxiliary transit enterprises of their own. (par. 1st).

2. The entrance fee is 100 chervonets roubles, the same amount being paid in every year as a membrance fee. (par. 8th.).

3. Meetings at the Exchange are held every day except holidays.

4. Non-local concerns and persons who are members of the exchange, are obliged to have their representatives or offices in Vladivostok so that the Board of Directors may address them if necessary. (Par. 16).

5. The following commodities subject to alteration, can be quoted at the exchange, viz., soyabeans, beancakes, bean oil, kaoliang, wheat, flour, millet and other cereals, as well as bags, and by-products. Transactions are either for cash, or futures.

6. Buying for cash is made in the form of a private agreement of the parties which is registered by the Exchange, the latter, however, not being materially responsible for same.

7. As to future deals, registered by the Exchange, the settlement of the accounts between the buyers and sellers is made only through the Exchange. (Par. 23rd).

8. At the expiration of the term seller has to deliver the goods sold or, better to say, the shipping documents covering the goods to the Exchange and

Back View of Railway Station, Vladivostok the buyer has to accept that goods from the Exchange upon having paid the money.

9. The Exchange Association is fully responsible to the parties concerned for the execution of the transaction, and the parties cannot make any claims to each other directly. This right only the Association holds in respect of the party in default. (par. 25).

10. The minimum lots of goods which may be negotiated at the Exchange are :

Beans.. ..	1 carload of 197 bags	—1,024 poods 16 pounds
Kaoliang ..	1 ,, ,, 197 ,,	—1,000 ,, 00 ,,
Beancakes ..	1 ,, ,, 197 ,,	— 600 cakes
Beanoil ..	1 cistern approximately	— 840 poods
Bags ..	10 bales of 400 pieces	—4,000 pieces.

(par. 34th)

11. In case of future dealings both parties have to deposit with the Exchange amount of from 60 roubles (for beancakes) to 400 roubles (beanoil) as security.

12. When the term for delivery has arrived, the seller has to produce at the Exchange office the documents (warehouse receipt, way bill, etc.) covering the goods sold, freight and storage fee to the day of delivery being prepaid, whereas the buyer must pay in the cost of the goods.

The Exchange Office hands over the documents to the buyer and the money to the seller and returns to them their respective deposits, less the commission due to the Exchange.

13.—The currencies used at the Egersheld are : the chervonets, yen, and Chinese dollar (yuan).

The choice of the currency is at the entire discretion of the parties, but in case of necessity the Board of Directors of the Exchange Association can introduce other currencies, too. (par. 56).

The exporters and importers carrying on their operations through the Egersheld Transit Grain Exchange, also enjoy all the facilities granted by the decree of the Soviet of People's Commissars of March 11, 1926, to all exporters and importers, directing their goods through the Transit Section of the Vladivostok port (exemption from the industrial tax, stamp duty, etc.)

Besides, all the formalities in connection with the transaction of business at the Exchange are simplified as much as possible.

All these facilities are of great importance to the exporters. Previous to the introduction of these facilities by the government of the U.S.S.R. various duties and fees were a scarecrow to the exporters and many a firm did not risk to effect its shipments through the port of Vladivostok. Now, all these impediments have been removed and the establishment of the Egersheld Transit Grain Exchange not only saves the exporters many troubles and difficulties, but also guarantees a prompt and exact execution of the transactions entered into at the Exchange, and a certain delivery of the goods to their destination in time, the soundness of this guarantee consists in the fact that the Exchange is responsible for every kind of negligence on the part of its sub-agents according to par. 29, of its Articles of Association.

Thus, for the last two years as a result of the opening of the Transit Section of the port of Vladivostok and the exemption of the exporters and importers, from the payment of all taxes and duties, the conditions of transit trade through Vladivostok have undergone radical changes. The establishment of the Transit Section made Vladivostok similar to a free port while with the opening of the Grain Exchange the exporters and importers have received the possibility of transacting their transit business at liberty being exempted from the industrial tax and the adjustment and stamp duty.

Thanks to the above measures the foreign business circles got particularly interested in the activity of the port of Vladivostok which induces us to give a short description (on the hand of official data) of the present technical equipment of the port as well as its transit capacity, operations during the past few years and its importance for the adjacent districts of the U.S.S.R. and North Manchuria.

IV. Site and Hidrotechnical Constructions of the Port

The port of Vladivostok is endowed with excellent physical and geographical facilities.

It is situated on the Golden Horn (" Zolotoi Rog ")* Bay in the Southern part of the " Mouravieff-Amourski " peninsula and is connected with the " Amour " and " Ussuri " bays which in turn constitute a part of the gulf of " Peter the Great " with which it connects through the straits of the " Eastern Bosphorus."

The bay of " Zolotoi Rog " is 6⅛ kilometers long with an average width of 4/5 kilometers, the total water area covering about 11 square kilometers.

The depth is 20 to 28 meters (56—91 feet). The smallest depth at the farther end of the bay (Gniloi Ougol) is 10 meters (32-ft.) *i.e.* it equals the greatest depths at the moorings of the port of Dairen.

The depth of the fairways is equal to 32.8 meters (above 106,4-ft.).

According to the project of 1913 for the enlargement of the port the greatest depth for moorings was fixed at 32-ft. In 1921 the depth was carried to 36-ft. and was still more increased in 1925 by dredging works at some of the mooring places.

Thus, to say nothing of the fairways not only the whole bay of " Zolotoi Rog " but also most of its mooring places have become quite accessible to ocean liners of any displacement.

The shores of the bay are mountainous thus, protecting it from the wind.

The water area of the port in addition to the inner harbor of Golden Horn comprises also the fairways leading toward it of total area of 34 sq. kilometers and a strip of water of 30 sq. kilometers along the " Amour bay."

Thus, the natural conditions make Vladivostok a first class commercial port.

The only drawback is the freezing up of the port in winter. According to meteorological records dating from 1860 the port is covered with ice for about 98 days on the average.

Nevertheless, navigation is going an all year round, as there are two big ice-breakers (" Dobrinya Nikititch "—200-ft. long, 4,500 h.p., 6 boilers, and " Kossak Poyarkoff "—160-ft. long, 1,250 h.p.)—and a smaller one (" Slavianka "—275 h.p.).

Those ice-cutters are under working order from December 15 to March 15 thus making the port open to vessels during the whole winter. The efficient work of the ice-cutters may be seen from the fact that during the winter of 1924/25 there was not a single damage caused to the propellers of steamers though they usually enter the port with uncovered propeller blades.

It must be also noted that since the commencement of the work of the ice-cutters (1895) the time during which the bay was covered with ice has been reduced by a month.

The approaches of the port are protected by a series of lighthouses which make the access to the port quite safe.

The smallest changes in the colouring of the lights are announced to navigators of all the world through the hidrographical institutions.

The masters of the ships, if so desirous, can have the privilege of obtaining the services of the " Association of Licenced Pilots."

There is also a wireless communication with incoming and outgoing vessels.

The vast inner harbor of the port is lined with a deep-water stone embankment of over 1,500 meters in length and has floating pontoons 1,920 meters long. 29 ocean steamers can be moored at one time at the embankment.

The regular mooring places of the port are divided according to the character of the cargoes into the following groups.

Four mooring berths (Nos. 4—8) at the foot of mount " Krestovaia " having a total length of 486 meters, are intended chiefly for the export of timber, meat, coal, beans, and the unloading of import goods arriving in bulk. They are easily cleared of ice in winter and almost all the work of the port is concentracted here.

The next group consisting of 8 mooring berths of Egersheld (Nos. 9—16) having a total length a little less than one kilometer (943,5 meters) is equipped with warehouses, railway sidings and special conveyors for the transhipment of grain exported from Manchuria, tea and similar products. The most active work is carried on at these moorings.

Eight mooring places at the commercial Pier and near " Shiroki Mol " (Nos. 26—30 and 31—34) with a total length of 1 kilometer are intended for the loading of various commodities (from 8 steamers), requiring storage in warehouses, and therefore they are equipped with godowns and a net-work of railway sidings.

Next comes a group of five mooring places on the Southern side of the bay (" Cape Tchurkin ") which are assigned exclusively to the loading of construction timber (a saw-mill formerly owned by Skidelsky is located in proximity).

The big work of levelling the adjoining territory is in progress hills being planed and territory reclaimed from the water.

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*43° 7′ north latitude and 101° 34′ longitude east Pulkovo.

Such are the principal groups of moorings in the inner harbor of the port. All the above named moorings (export those at "Cape Tchurkin" have stone walls, the depth near them being 38-ft. The moorings at "Cape Tchurkin" are stone and gravel mounds.

Besides the equipment enumerated above there are also used floating pontoons, because of their inexpensiveness.

There are two separated harbors in the "Amour" bay for coasting vessels; the one for smaller vessels and junks is at "Semenovski Bazar" and covers an area of 48.000 sq. meters; the other—at the railway station "Pervaia Retchka" is intended for vessels shipping petroleum, which is kept in special tanks connected with the moorings by means of conveying pipes. The water area of this harbor is 21.000 sq. meters.

V. Land Constructions of the Port

The total area of land occupied by the Vladivostok Commercial Port equals 0.819 sq. kilometers. Its tremendous length is of great advantage inasmuch as the warehouses and railway sidings built on a narrow strip of land between the water and a range of rocky mountains are everywhere in close proximity to the moorings. The total water line of the port is about 79 kilometers.

The warehouses, sheds, oil and petroleum cisterns occupy 0.207 sq. kilometers, and railway sidings and common roads—0.205 sq. kilometers of the whole land area.

BUILDINGS FOR STORAGE PURPOSES.

There are the following kinds of covered constructions for storing goods within the compound of the Vladivostok port, viz.,

Iron built godowns	144,189 sq. meters.
Stone build godowns	7,399 ,, ,,
Wooden built godowns	1,798 ,, ,,
Sheds	3,880 ,, ,,
Oil tanks	6,000 tons
Petroleum tanks	16,000 ,,

out of which 23 godowns of the total area of 46.114 sq. meters or more than 4,6 hectares belong to the Port Administration, the other godowns and sheds being the property of the Vladivostok Customs, the Volunteer Fleet and Ussuri Railway.

The total storage capacity of all warehouses of the Vladivostok port is: for cereals—138,887 tons (8,472,107 poods), for Customs goods—31,244 tons (1,905,884 poods).

Besides the Port Administration possesses 70,000 sq. meters of ground for storing goods in the open and warehouses of 42,000 tons capacity outside the territory of the port.

Thus, the port is equipped with warehouses to excess, in which more than 212,000 tons or approximately 13 million poods of goods can be stored at one and the same time.

In the warehouses of the port there are stored not only valuable goods for import pending further shipment, but also goods for export including grain.

In this respect the Vladivostok port has undoubtedly an advantage over Dairen, where most of the goods both for import and export and grain products particularly are stored in the open air.

The warehouses of the port of Vladivostok are divided into groups either directly located at the mooring places, or connected with the respective moorings* by the means of railways sidings, which greatly facilitate the transhipment of goods from the warehouses to steamers and *vice versa*.

The most important of these facilities is the possibility to load transit goods directly from railway cars and warehouses to steamers and *vice versa*, which saves the shippers many troubles of reloading several times as is, for instance, done in Dairen where the transit goods are first stored in the open, then loaded on carts or motor trucks and carried to the moorings where they are again piled up in the open, and at last are loaded on board of steamers exclusively by manual labor. In case there is no steamer expected for any given kind of goods the same are placed in a warehouse.

There is quite a sufficient number of railway sidings running from Vladivostok station—the terminus of the Ussuri Railway to different parts of the port, viz., 1) to Transit Section (Egersheld) (2) to moorings of the Volunteer Fleet, (3) to the Commercial Pier, (4) to Shiroki Mol, and (5) to Cape Tchurkin along the shore of the bay.

The total length of the railway sidings is equal to 22.355 kilometers. The gauge is the same as that of the Chinese Eastern and Ussuri Railways.

These railway sidings cover the entire area of the port so that the delivery of goods from warehouses to moorings and the loading from railway cars directly to the holds of steamers and *vice versa* are done quite easily.

In this respect the railway system of the port of Vladivostok is very convenient, as each of the four above named sidings runs as far as the very board of the steamer, so to speak, and greatly facilitates the most rapid handling of loading operations which is thus of advantage both to shipowners and shippers.

EQUIPMENT OF THE PORT WITH MECHANICAL CONVEYORS.

The two deepest and busiest moorings (Nos. 13 und 14), at the centre of the Transit Section and 6 warehouses belonging to them with a total storage capacity of 40,000 tons are equipped with electric conveyors for the loading of bags with grain into vessels.

As may be seem from the two drawings placed below, every mooring berth and the warehouses attached to it, are situated in three lines and have two permanent elevated lines of conveyors running on estacades passing through the warehouses and then laid out on a raised platform over the railway track, until they reach the board of the steamer.

Each conveyor consists of 8 parts and is worked by the means of 4 electric motors of 10 h.p., each.

The conveyors can move in both directions.

The carrying capacity of each line is 60 tons per hour; practically it can haul from 40 to 50 tons per hour which depends upon the quality of the vessels' winches and tackle.

The conveyors can:

1. Shift goods from railway cars to steamers directly or to the floating pontoon and *vice versa*.
2. Shift goods from the three lines of warehouses to steamers and *vice versa*, the cost and time of transhipment being almost equal in all the instances.
3. Shift goods from the railway cars to warehouses and *vice versa*.
4. Raise goods from piles or lower them.

The total working capacity of the two permanent upper lines of conveyors is 100—120 tons per hour.

The conveyors do not handicap the goods to be loaded by hand from warehouses of the first line, and from railway cars to steamers.

The two pictures below represent the work of the conveying cranes: in the first one the bags of grain are moving through the two warehouses over the railway lines.

In the second we see the cranes conveying grain bags from the nearest warehouse to the hold of the steamer.

Below the grain is being loaded by hand.

The cost of haulage of one pood of beans is:

From warehouses of the first line	—0.65 kopecks
,, ,, ,, second ,,	—0.75 ,,
,, ,, ,, third ,,	—0.85 ,,
In average	—0.75 kopecks

As the loading by conveyors saves much time and labor and as the work of the port steadily grows, the Administration of the Port has resolved to equip with cranes the 15th and the 16th mooring berth of Egersheld as well.

LOADING BY HAND.

The above described conveying equipment of the 13th and 14th moorings of Egersheld is only a brilliant detail in the work of the port and represents the initial stage for a general mechanisation of the port to be carried out in the future.

At the present time the greatest part of loading work is done by the Association of stevedores who are under the Commercial Agency of the Ussuri Railway, the number of members of this Association being 1,500 and consisting chiefly of professional men of great experience.

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*Generally speaking the moorings as well as respective warehouses are strictly systematised.

The following figures taken from the records of 1924 give some idea of the working capacity of these men:

Kind of work	Tons	Time of work by contract (days)	Time during which the work was actually completed (days)
Unloading	6.500	13	8
„	5.242	11	6
„	11.126	22⅓	In due time
Loading	11.000	22	15
Unloading	5.600	13	10
Loading	8.100	13½	2½
Unloading	7.650	15	8½
Loading	6.000	12	In due time
Unloading	7.500	15⅛	10

OIL TANKS.

The bean oil arrives at the port from North Manchuria in tank cars. There are five iron cylindrical tanks for storing it. These tanks are installed in special buildings, on the mooring place No. 8 in the Transit section which are heated in winter.

From the railway tank car the oil flows through pipes into an iron collecting reservoir dug into the ground between the tracks.

The pumping station pumps the oil from the reservoir to any port tank and from the latter to the tank of any steamer lying at the moorings 9 to 14, by means of conveying pipes, the total length of which is about 1 kilometer. The oil can also by conveyed to a special building for the filling of barrels.

The total storage capacity of the five tanks is about 6,000 tons which is equal to the capacity of 450 railway or 6 steamer tanks.

90 tons per hour can be pumped to the tank of steamer berthed at the mooring blace 9, and 50 tons per hour to the other moorings.

In spite of the considerable capacity of the five above nameds tanks the Administration of the Port is going to build a 6th, for 1,000 tons, as the export of bean oil is growing from year to year.

PETROLEUM AND BENZINE TANKS.

Naphta products are only imported to Vladivostok. There are 4 petroleum and 2 benzine tanks at "Pervaia Retcha" (railway station, 3 kilometers distant from Vladivostok) on the shore of the "Kobotajanaia Gavan" of the "Amour" bay.

The total storage capacity of these tanks exceeds 16.000 tons. One of the benzine tanks was built only last year.

In the proximity of the napha warehouses there is a small plant for making of benzine tin cans.

LIGHTING OF THE PORT.

The port is lighted by electricity which is generated at the municipal power-house.

Half-watt lamps (100 to 600 candles) are used. The current is of three phases, 220 volts, 50 cicles per second.

Thus, it is possible to carry on work in the port day and night, which is especially convenient in winter, when the work is the most intensive. (The stevedors work hereby by shifts).

DOCKS AND REPAIRING OF VESSELS.

At the present time repairs at the port of Vladivostok are carried on by:

1. The Far Eastern State Mechanical Workshops for repairing vessels (Dalzavod), which are the best equipped for repairing hulls, boilers and machinery. The workshops have a pneumatic station for repairing boilers as well as apparatus for electric and acetylene welding.

There are also two new dry docks for vessels 600-ft. long; these are equipped with pumping, pneumatic, and electric stations, an electric sub-station and workshops for small repairs.

In addition to these docks there are also:

(*a*) A floating dock consisting of two sections owned by the Vladivostok Naval port. It measures 200-ft. of length and 74-ft. of width (internal) and can raise 5,000 tons.

(*b*) Shipyard owned by the private firm of Brinner, situated on the Southern shore of the "Zolotoi Rog." (c) Shipyard of the former Military-Industrial Committee and now in charge of the Administration of the Commercial Port.

2. The Port Administration workshops for repairing vessels, consisting of copper casting, forging, mechanical shops, joiner carpenter and boat-building shops. All small repairs are done in them.

3. Workshops of the Union of Metal Workers and "District Water Committee." These are not large but a great amount of work is done in them.

4. Shiloff's and Yaropoloff's private workshops.

Besides those ennumerated above there are many other private and public workshops, some of which belong to the Volunteer Fleet. These are idle on account of lack of work.

TOWAGE.

The towing is done by the towtugs "Slavianka," "Skripleff," "Bosphor" of 250 h.p. each. In winter the vessels are towed by the ice-cutters "Dobrinia NikitisW" and "Kossack Poyarkoff."

The cost of towing is gold roubles 20 per hour.

There are also small towing tugs of 50 to 150 h.p. belonging to private persons, which charge from 8 to 15 roubles per hour.

COAL AND WATER SUPPLY.

Until 1922 it frequently happened that the city and port Vladivostok as well as incoming vessels could not obtain a sufficient amount of fresh water, as there were no municipal waterworks and the boring of wells on the rocky mountains on which Vladivostok is spread was accompanied by many difficulties, while the water supply of the Ussuri Railway could not satisfy the demand.

Since 1923 a big work has been in progress to remove this defect:—

(*a*) The Ussuri Railway has built a number of water collectors in the valley of "Vtoraia Retchka" and has connected them with the old water supply system.

(*b*) A big water collector with the capacity of 100,000 tons was built by the Port Administration in the valley of the "Uliss River" flowing into the "Uliss" bay. The water is delivered from this basin to vessels by means of special barges.

As the result of these and other less important measures, the port of Vladivostok is now supplied with fresh water to an extent exceeding many times the demand and, should the number of calling vessels be doubled or even triped, there would still be an excess of fresh water with the present equipment.

The extremely rich Su-chang coal mines, which are only 140—150 kilometers away from the port (by rail), warrant a sufficient and inexpensive supply of first grade coal which is delivered both by rail and by water.

THE TRANSIT CAPACITY OF THE PORT.

The transit capacity of the port of Vladivostok is roughly estimated as follows:

On the ground of many years of experience the annual transit capacity on the basis of lineal sajen of the embankment (without mechanical appliances) for the loading of cereals is put at 60.000 poods of grain.

The total length of the mechanically equipped embankment is now 1,616 sajens; thus the annual transit capacity of the latter embankment equals 1,616 by 60,000=96,960,000 poods.

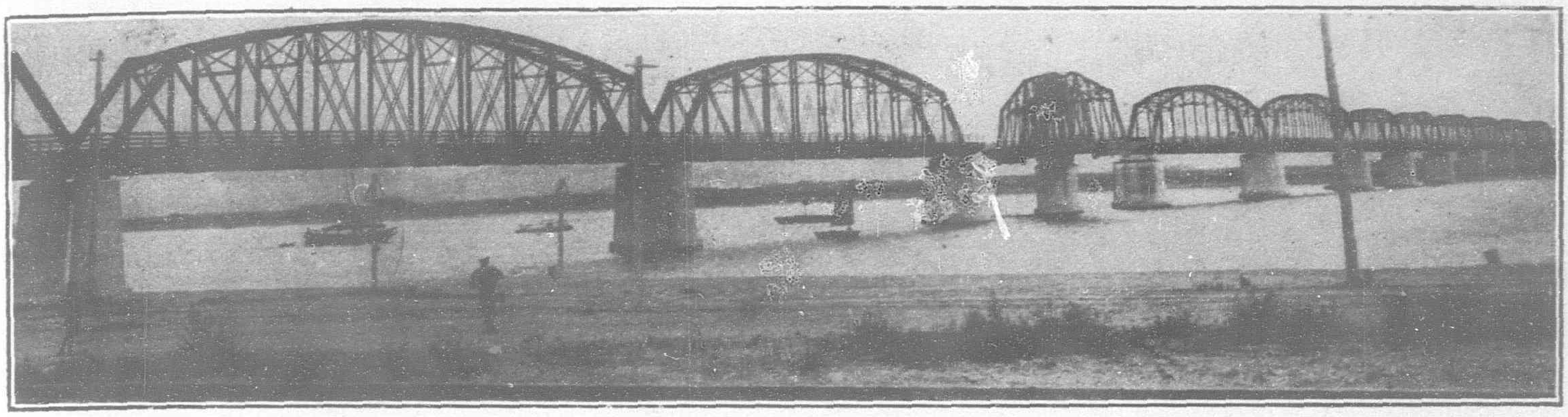
Taking into account that only steam vessels are moored at the mechanically equipped embankment, while coasting sail-boats are loading and unloading almost exclusively at the natural coast line which according to the port records, gives an additional 10 per cent. or 9,606,000 poods,—the normal transit capacity of the port of Vladivostok can be theoretically defined at 106,650,000 poods per annum. This figure could be also arrived at from other data such as: the total area of warehouses, hauling capacity of railway sidings, etc.

Yet in 1926, 160,438,229 poods were shipped through the port without much difficulty, which makes 50 per cent. more than the annual capacity.

The normal capacity of the *Transit Section* is theoretically determined at: 60,000 by 713 (annual transit capacity of one lineal sajen multiplied by the length of the embankment without mechanical appliances) plus 100 the average work done by one conveying crane in tons per hour) by 2 (number of moorings with conveyors) by 8 (working hours per day) by 200 (number of working days per annum) by 61 (coefficient representing the ratio of one ton to pood) by 42,780,000 plus 19,520,000=62,300,000 poods per annum.

Thus, the annual capacity of the Transit Section taking into account the mechanical conveying equipment equals 62,300,000 poods, which makes 58.4 per cent. of the annual capacity of the whole port.

(*Continued on page 94*).



The Bridge Across the Yalu

Engineering Feats in Kwantung*

What Has Been Done in Twenty Years Under Japanese Supervision and Initiative

AMONG the numerous foreign-controlled and administered areas in China, perhaps one of the most interesting, from the engineer's standpoint, is the Kwantung leased territory in southern Manchuria. Here we have the result of twenty years of Japanese government, following a brief Russian regime which ended with the Russo-Japanese war.

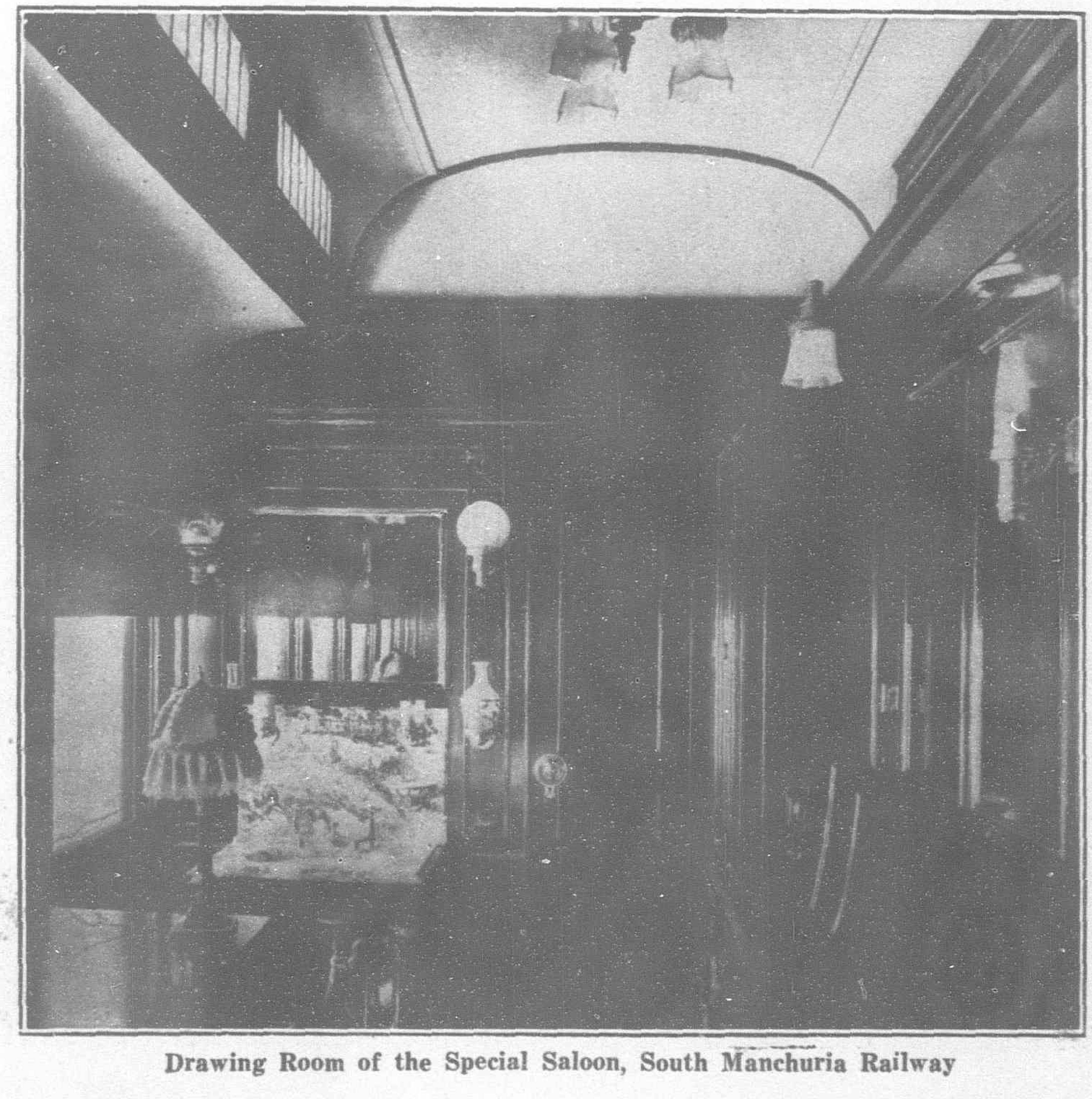
Recently, to celebrate the twentieth anniversary of the establishment of the Kwantung government, the Japanese administration issued a pamphlet, fully illustrated, describing the accomplishments and present state of the leased territory and the South Manchuria Railway zone, which is also under Japanese control. Many items of information contained are of general interest, particularly to those who are engaged elsewhere in China in development work of various kinds.

Railway Progress

As the introduction states, the part of Manchuria under Japanese administration amounts to only 1,400 square miles, and this area includes the S.M.R. zone which traverses the heart of southern Manchuria, from Dairen on the coast to Changchun, from Mukden to Antung on the Korean border, with three short branch lines, nearly 700 miles of railroad. The S.M.R. Company commenced operations in April 1907 and to-day is one of the leading companies in the world. Its authorized capital in 1920 was Yen. 444,000,000.

The company does not confine itself to purely railroad matters, but its enterprises include administration of the railway zone and iron and steel works, mines and harbors. Until a short time ago it also controlled gas and electricity works, but these have since been separated into independent companies with private capital. The main railway, from Dairen to Changchun, is 438.5 miles long, while the shortest line, from Hunho to Yushutai, is only two and a half miles in length.

The main line was completely reconstructed in June 1908 on standard guage, and in November 1911 the Mukden-Antung line was reopened on a new basis. To judge the progress made by the S.M.R. Company between 1907 and 1925 one need only regard a few simple statistics. In 1907 there travelled by these lines a total of 1,562,221 passengers and 1,486,434 tons of freight, but in 1925 these figures had increased to the total of 9,109,004 passengers and 15,045,200 tons of freight. The railway equipment is up-to-date and claimed as among the best in the Far East.



Drawing Room of the Special Saloon, South Manchuria Railway

Coal and Iron

The Fushun and Yentai coal mines, east and south of Mukden, and the Anshan iron mine, south of Mukden, are the chief mines operated by the railway company. The Fushun collieries are situated about 20 miles east of Mukden and have a branch line connecting them with the main line and with the capital of Fengtien province. The coal field covers some 14,900 acres—nearly ten miles from west to east and two and a half miles from north to south. The coal is mostly bituminous and supposedly of the Tertiary period. The veins have an average thickness of 130 feet, ranging from 78 to 420 feet.

In 1925 the total output of these Fushun collieries amounted to 5,681,600 tons, and about 930,000,000 tons are claimed in this one mine, one of the biggest in the world. The Yentai coal mine, on the other hand, while producing 5,799,000 tons in 1925, is estimated to have a deposit of only 20,000,000 tons. The railway uses this coal on its own lines and in its factories and also markets quite a large quantity besides. The coal field covers 1,900 acres, one mile from west to east and three and a half miles from north to south.

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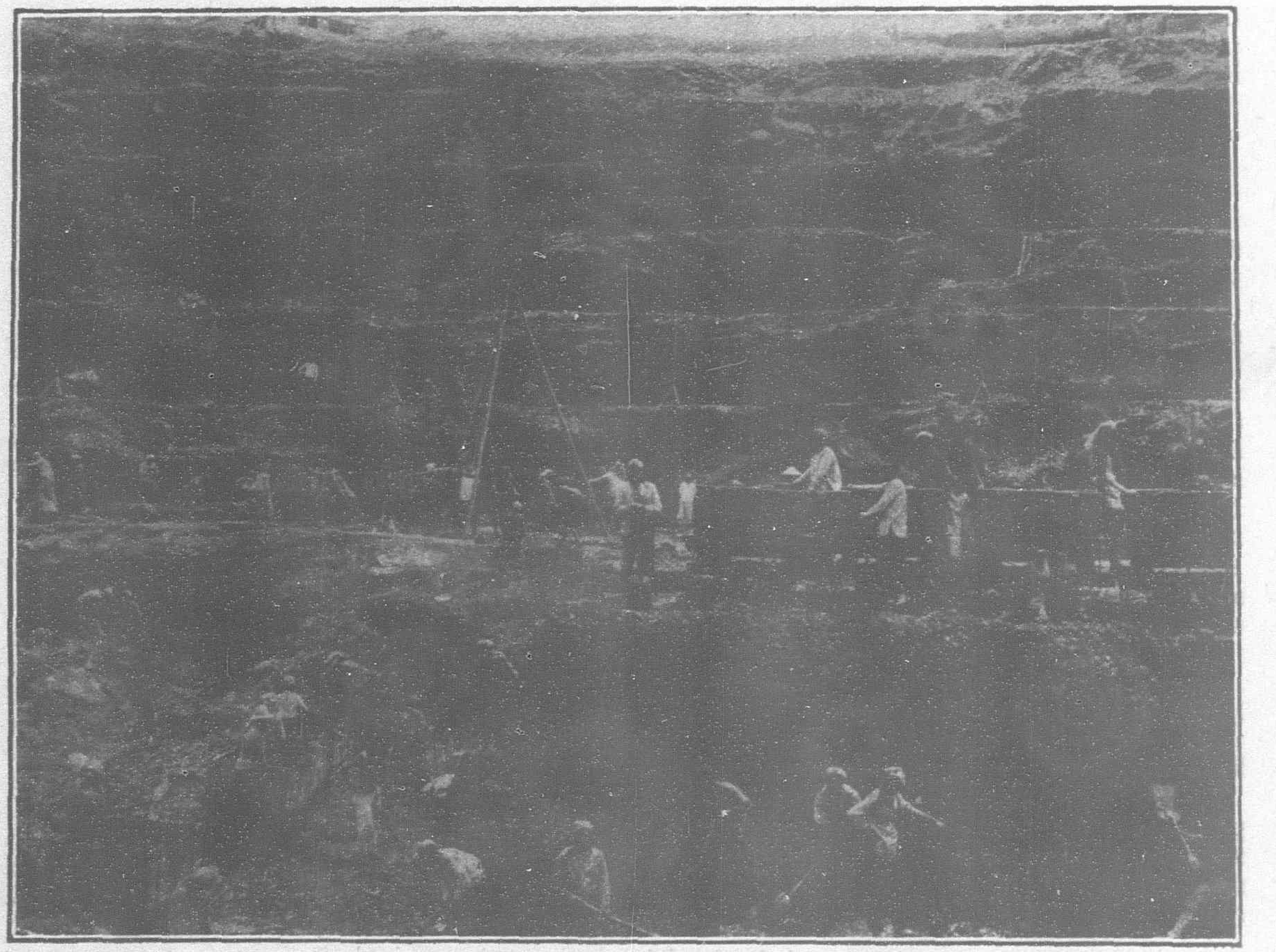
*Oriental Engineer.

Steel Frame Dining Car.—Built for the South Manchuria Railway Company, Shakako Workshop, Dairen

Oil and Steel

At the Fushun mine oil is being distilled, with promise of success, from the shale deposits, which are about 300 feet of seam above the coal veins, with an estimated reserve of 5,500,000,000 tons. Beginning last September, following many tests by experts, a furnace on the Internal Heating System was constructed, and 2,000 tons of shale will be treated daily according to this plan, making an annual total of 700,000 tons. If these experiments succeed, Japan will solve one of her difficult problems, obtaining each year about 50,000 tons of oil, 1,000,000 gallons of naphtha, 4,000 tons of paraffin and 9,400 tons of ammonium sulphate.

The Anzan iron and steel works are situated along the railway between Anshan and Lishan stations. The first furnace was completed in April 1919. About 4,580 acres had been purchased for the plant compound and for town building. The ores of the mine, however, were found to be rather poor in quality, containing from 40 to 60 per cent. of metal and being mostly hematite. The poor ore is being worked economically at present by the hematite reducing system, invented by a Japanese expert at the works, and by this treatment the ore is concentrated before being charged into the blast furnace. The annual output of pig-iron from two blast furnaces amounts to 220,000 tons.



The Fushun Collieries

Town Planning

Among the more important feature of the administration of the railway zone are town planning, management and lease of land and buildings, sanitary work, agricultural, commercial and industrial institutions, and the Central Laboratory and Geological Institute. Under town planning come surveys, roads, bridges, waterworks, sewerage, ground leveling, parks, shore protection, and cemeteries. New towns, built after Western models, with broad streets, parks, hotels, hospitals and markets, have appeared in the zone during the past score of years, though at considerable cost, as this phase of the company's work ranks third—after railways and mines.

In the Kwantung leased territory the Communications Bureau heads 322 subordinate offices, which control and conduct all services of mail, telegraph, telephone, postal money order, postal savings, radio, electrical enterprises, etc. In March 1926 there were 40 post offices, with 8 branches, 16 sub-post offices, 140 postal agencies, 12 wireless stations, two on land and ten on ships, 2 telephone offices with 16 sub-stations, and 6 telegraph agencies with 82 railway telegraph agencies. An automatic telephone system was installed in Dairen in 1923, before Japan enjoyed this modern system. Telephones are used in the principal centers of population.

Even Broadcasting

For over a year Dairen has had a broadcasting service. Every day both Japanese and foreign music, lectures, market and weather bulletins and current news items may be heard at small expense. Thus Dairen ranks with the minority of cities along the China coast which are permitted to enjoy broadcasting by radio.

Dairen possesses one of the finest harbors in the Far East, and her foreign trade has jumped from Hk. Tls. 14,000,000 twenty years ago to Hk. Tls. 284,410,414 in 1925. Among the principal imports are vehicles, machinery and building materials. China accounts for 20 per cent. of the total export and 30 per cent. of the total import, while Japan exports 60 per cent. and imports 40 per cent. In 1925 a total of Yen 107,370,000 from bean cake and bean oil exports included 80 per cent. manufactured in Dairen. Modern machinery is now being used in bean mills and flour mills.

During 1925 there were 658 factories in the leased territory. Of these 35 were dyeing and weaving, 103 machinery and implements, 268 chemical, 127 miscellaneous and 28 specialties. Over Yen 139,000,000 is invested in these factories. Fruits, cotton, and other agricultural products are grown, but old-fashioned farming still predominates although cotton mills are appearing and American upland cotton is proving successful, resulting in a crop of 950 pounds per acre.

Afforestation, Too

Forestry has a future in South Manchuria, as in so many other parts of China, as little afforestation has been done. Twenty years ago the hills and mountains were bleak and barren, and only willows and elms were to be found in the neighborhood of habitations. The Japanese, however, started several nursery farms and supplied saplings for afforestation. Rented forest land totalled 26,000 acres in 1925. Those who helped in this slow work received land free of charge and seeds and young trees for nothing. Villages began establishing their own nursery farms, and last year some 50,000 acres had been planted with trees, 32,000 acres of this by the villages.

The trees planted are mostly pine, larch, acacia and scrub-oak (quercus serrata). Three million young trees are supplied each year by the three Japanese nurseries, and to-day the Chinese themselves own 32 such farms, covering an area of 500 acres. Thus to-day the hills along the S.M.R. are no longer bare; over 6,000,000 trees have been planted along the railroads.

Several Ports

The Kwantung leased territory boasts several ports, including one of the best appointed harbors in the Far East at Dairen. Ships can berth along the quays. There is a breakwater two and a half miles long, built of concrete, and the quay walls are equally long. There are four wharves and 74 warehouses, with a total capacity of 340,000 tons. There is also open storage ground for 410,000 tons. The dry dock is 430 feet long and 350 feet deep, and there are coal jetties, junk wharf, and an inflammable goods pier. In 1923 the average ship accommodation (the fourth wharf had not been built then) was for 19 ships with 66,000 tons displacement per day. Now accommodation has been increased considerably. The port, furthermore, boasts 15 tugboats, 24 steel lighters, 5 floating cranes, 21 wharf cranes and 5 bean oil tanks.

The three other harbors are Ryojun (Port Arthur), Yingkou (Newchwang) and Antung, and jetties have been built at each and reclamation work carried out. The S.M.R. Company, which is responsible for harbor improvements, has invested approximately Yen 45,000,000 in the four ports, including 42,500,000 at Dairen alone up to 1925. It is noteworthy that the same company has invested Yen 760,000 at Shanghai, where a Yen 500,000 pavilion with waiting-rooms, etc., at the wharf was completed in 1924.

Modern Cities

Twenty years ago Dairen and other cities were just beginning to grow but to-day possess good streets, bridges, water works, drains, parks, electricity, gas, telephones, street-cars and water-front improvements. Dairen is divided into commercial, industrial, residential and mixed areas, and the houses are built of non-combustible materials, brick, stone or reinforced concrete, and are all two-storeyed or even higher. The main towns have been constructed on the square-block or spider-web systems, with Western style predominating.

Road building has been developed with enthusiasm by the Japanese since the Russians surrendered the territory, and it is said that many roads are far better than roads in Japan. Avenues, lined with elms, poplars, acacias or other shady trees, and public squares with flower-beds, evergreens and grass plots help to beautify the cities. These are seven kinds of macadamized wagon roads, too, all with sidewalks made of concrete blocks on both sides. The wagon roads differ according to width ranging from 36 feet to 150 feet. Roads and bridges have cost the Japanese about Yen 3,350,000. The bridges are constructed of stone, iron or concrete. A fine 28-mile long driveway, 30 feet wide, was completed in 1924 along the coast of the Liaotung peninsula and affords a charming trip for travellers.

Water Supply

Since 1921 at Dairen 4.5 cubic feet of water has been provided per capita, and, in addition, 3,435 tons is daily supplied to ships, railway workshops, fountains, street watering and fire departments. A new reservoir is being completed and will increase the amount of water available to 24,600,000 tons a day instead of the original 1,000 tons during the Russian administration. Ryojun and Chinchou have daily supplies of 3,200 tons and 2,200 tons respectively. Waterworks are operated in 17 towns. The sewerage system has been developed entirely since the Japanese occupation and has cost, in Dairen and Ryojun alone, a total of Yen 4,151,842 up to the end of 1924. The railway maintains sewers at 14 places and is planning new ones.

Several hundred million yen is estimated to have been spent on buildings and houses by the Russian and Japanese authorities and by private enterprises. To keep out the intense cold, houses require good foundations, thick walls, double windows and roofs, and floors and ceilings which let neither cold nor heat pass through. Brick and stone are used most. Gas and electricity works are now managed chiefly by private concerns; Dairen alone has electric street-cars. In 1925 the Kwantung leased territory consumed 187,000,000 k.w. of electric power and light, exceeding the amount used in Korea.

With so much achieved in twenty years, it may well be asked what is to be expected in the next twenty years. This, doubtless, will depend largely on whether Kwantung remains a leased territory, as provided by treaty, and this, after all, is a political or diplomatic problem and not one primarily for engineers. The lessons of steady growth, however, should be valuable to other areas in China, where progressive development is taking place. Engineers, at least, may claim a big share in the development, whether in Kwantung, along the S.M.R. lines or elsewhere in China where reconstruction is in process.

The Conflict of Policies in China

(Continued from page 64).

that such a policy will not succeed, for the Chinese have so much more to gain from friendship with Japan than from friendship with Soviet Russia.

Friendship with China at this time, however, is such a difficult proposition. One does not know who represents China. One does not know what is the Government of China. Is it in Peking, Mukden or Hankow? Even within these categories, there is disagreement and misunderstanding. General Chiang Kai-shek remains at Nanchang and will not agree to the removal of the Kuomintang capital to Hankow. Marshal Sun Chuan-fang recognizes the overlordship of Chang Tso-lin but does not want Chang's troops in his territory. So it goes in every province, almost in every city. With whom are the Powers to deal even in the spirit of the deepest friendship? And how does one know that a contractual arrangement entered into is to be regarded as sacred by the successors of the signatories? In a word, while things are still in the process of splitting up, one dreads to enter upon arrangements which, for their success, require continuity of principle even if not of personnel of Government. There is no such continuity in China. Policies then become gambles. They might work and then again, they might not. There is no room even for the suggestion of success. It is that feeling, more than anything else, which prevents Japan and Great Britain from recognizing even to a greater extent than they already have, the Nationalist Government.

Electric Power Supply Co., Amoy.—An electric power supply company has been organised at Kulangsu, Amoy, Fukien province. It is capitalized at $250,000, national currency.

Motor Roads in Chekiang.—In connection with the motor road construction plan in Chekiang, many improvements are in progress in Shaoshing. Motor vehicles have been introduced to the city, the shops are putting up new cement fronts, and street widening is in progress.

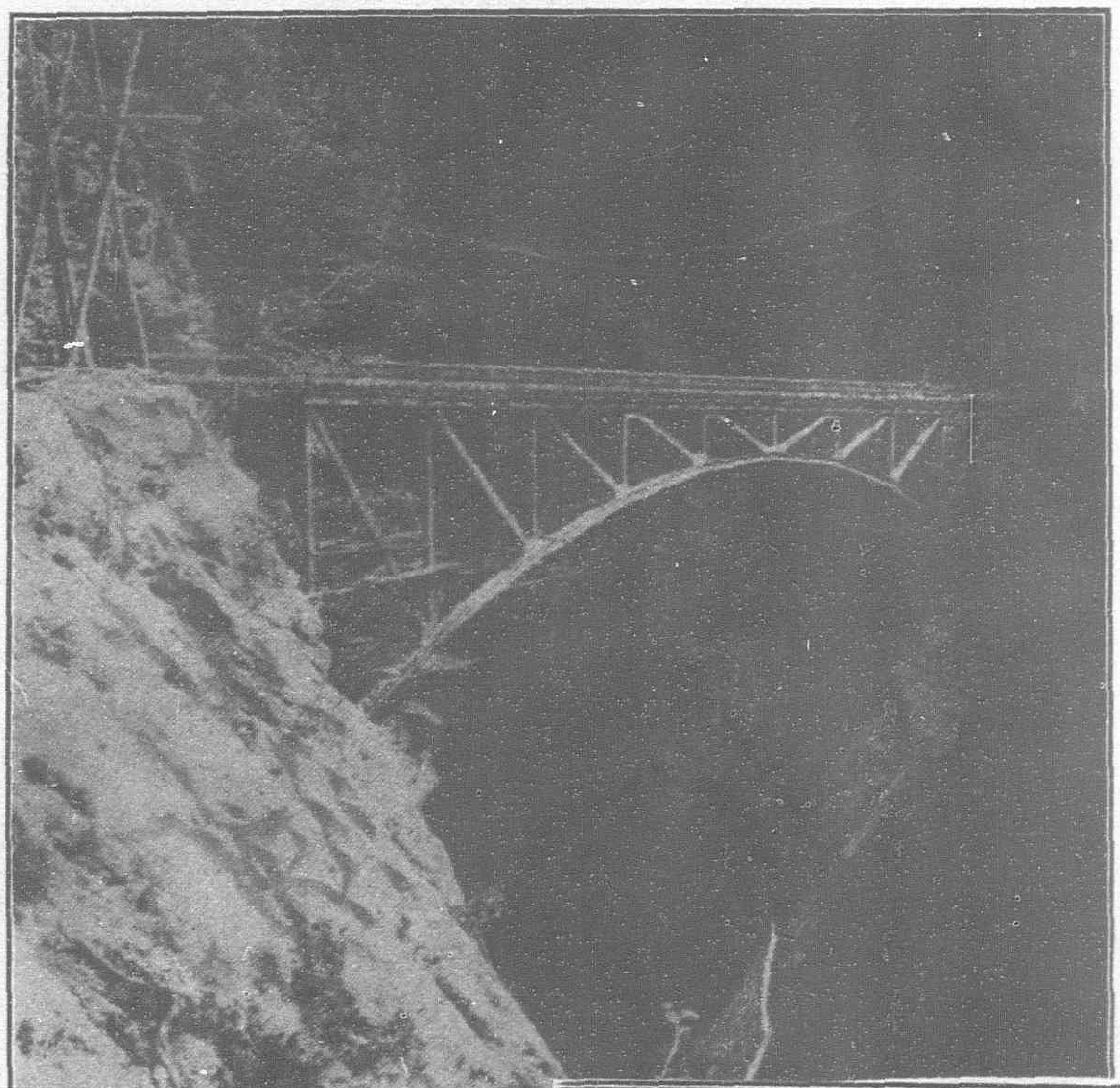
Kurobe

The Most Ideal District in Japan for Erecting Hydraulic Power Plants

WITH the remarkable development of hydro-electric power industry in recent years, every mountain with utilizable water for power plants have been surveyed. As the result, Kurobe in Toyama Prefecture in the north-western part of Japan has proved to be an ideal place for erecting hydraulic power plants.

The Kurobe district has special merits in the water which has its origin from the glacial gorges in the Japan Alps. The water is not only running all the year round, but also is of a rapid nature. These merits are essential for hydraulic power purposes. Prior to the discovery of the Kurobe Gorge, the Kiso River in the southern part of Japan with its excellent conditions ranked the first as an ideal one for the same purposes. On the course of the Kiso, the Daido Electric Power Company is at present operating power plants with a total generating capacity of 170,000 k.w. The Kiso is satisfactory in every respect as the river of that kind, but the Kurobe is far excellent in the conditions.

After keen competition with other parties interested, the Japan Electric Power Company secured the water-rights on the Kurobe in September, 1926. In addition to the Company, two other concerns, namely the Kurobe Electric Power Company and the Electricity Bureau of Toyama Prefecture are planning to obtain power aggregating more than 400,000 k.w. from the Kurobe.



Atomore Bridge Kurobe Railway

Keen Competition for Obtaining the Water-Rights

In 1918, the Oriental Aluminum Company with which the Japan Electric Power Company was later amalgamated was the first applicant with the authorities for the water-rights on the Kurobe. The permit for the power with a total generating capacity of 150,000 k.w. in five different spots on the course was granted in 1920, when this Company was unexpectedly visited by a misfortune. For the expenditure for starting the work, this company had depended on capital which was to come from America, which did not materialize. To made matters worse. The Company was in great difficulties. In the meantime, the Japan Electric Power Company turned its attention to the water-rights which were of no practical use to the Oriental Aluminum Company, and commenced operations to take over the rights in question into his hands. However, no sanction was granted to other parties but to the Oriental Aluminum Company. Having taken over the rights from the Company, the Japan Electric Power Company holds all rights on the Kurobe at present.

The Kurobe Electric Railway

The Kurobe Electric Railway was built by the Oriental Aluminum Company in 1920 with a view to developing power works in the Kurobe Gorge. In November, 1923, a complete line covering 10.7 miles from Mikkaichi Station on the Hokuriku Line to Unatsuki, the threshold of the Kurobe District was opened to traffic. The line is of 35-ft. gauge, single track. The run has an upgrade of 680-ft. In the upper part of the line, there are the following structures :

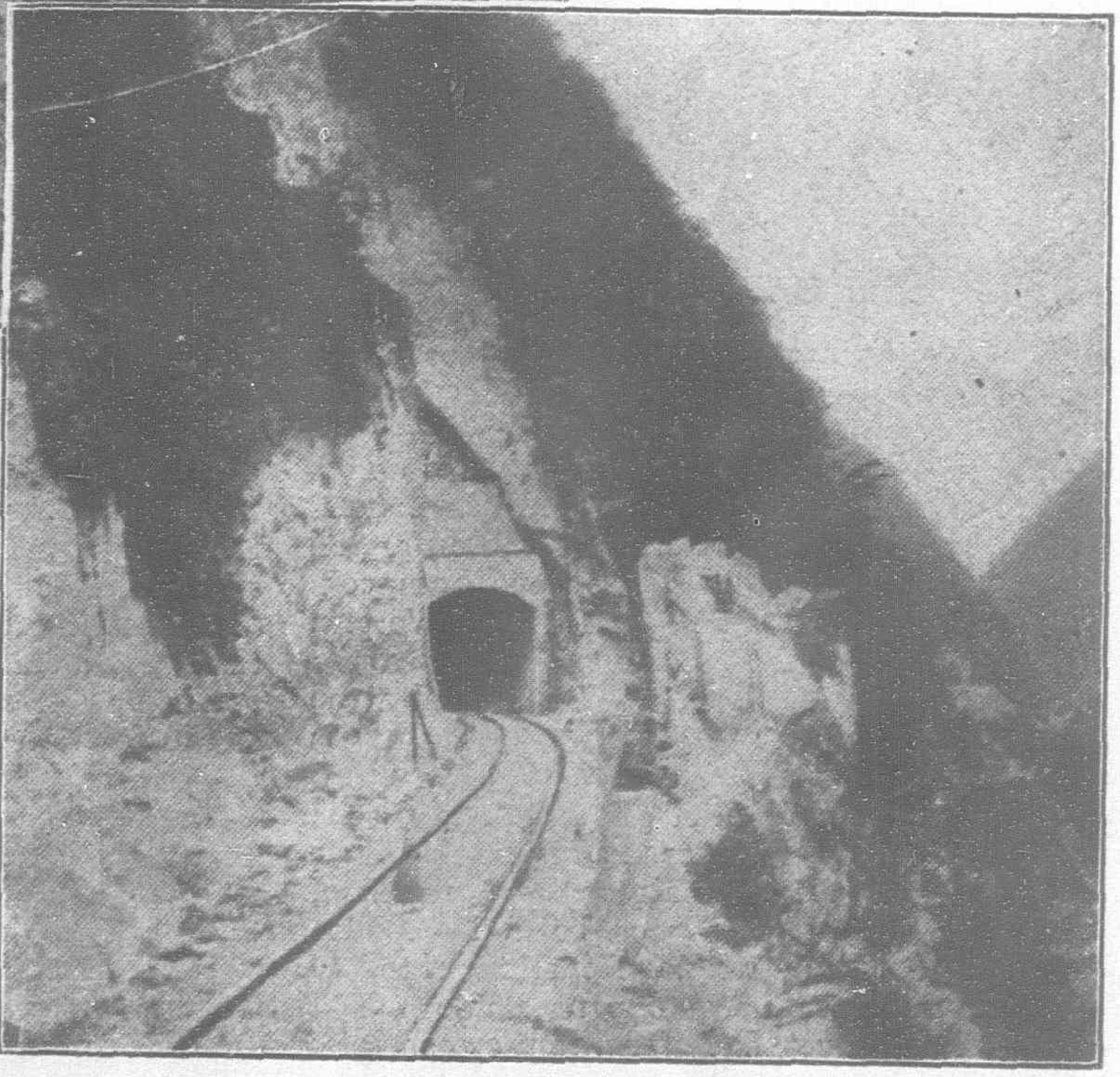
Bridges :

No. 1 Horikawa B.	—	30-ft. plate girder
No. 2 Horikawa B.	—	25-ft. P.L.
Funakawa B.	..	25-ft. P.L.
Takataki B.	..	2—2-ft. P.L., 1—117-ft. deck pratt.
Unatsuki B.	..	2—2-ft. P. L., 1—117-ft. deck pratt, Load—Cooper's E—27.

Tunnels :

Hosogoe	..	86-ft. long
Aimoto	..	370-ft. long.
Fukatani	..	1,686-ft. long.
Gosenso	..	345-ft. long.

The current is of 600 volt direct, catenary system. Aluminiu wire with a core of 336-000CM is used as the feeder as well as the messenger.

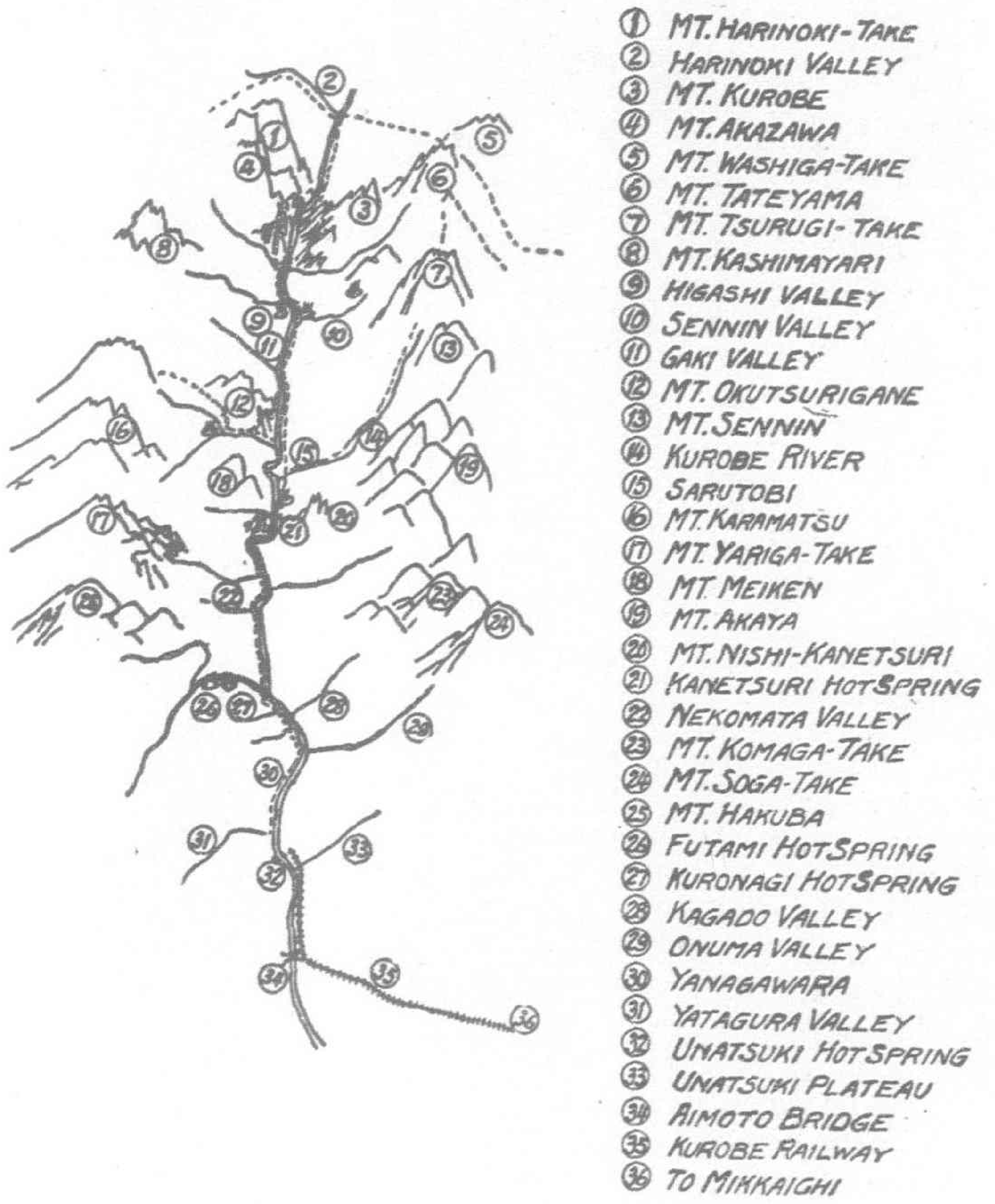


Tunnel At Hotokeishi Kurobe Railway

Sub-Station for the Kurobe Electric Railway

With 2 sets of 100 k.w. induction motor generator, operation of the sub-station was started at Shimodate. However, with gradual increase in the load, the capacity was enlarged, and two 400 k.w. generators are in operation at present.

The railway was first operated with three single cars each provided with two 65 h.p. motors.



Bird's Eye View of Kurobe

Two bogie-cars each equipped with four 65 h.p. motors were added later.

The daily revenue of the railway, at the first stage of operation was only Yen 13 or so per mile, but since it made a remarkable increase in the amount, being in the neighbourhood of Yen 50 at present.

The power for the railway is supplied from Yatagura power station which is located on the opposite bank of Unatsuki. Utilizing a head of 500-ft., the plant is operated by means of one 2250 h.p. Dengyosha turbine and one 1,500 k.w. Shibaura generator.

The Light Railway for Exclusive use for Hydraulic Construction

Extending further from Unatsuki, terminus of the Kurobe Railway, the construction work of a narrow gauge railway for the section between there and Nekomata is completed. How difficult the work was can be imagined from the fact that the cost of construction for the section covering some 7 miles reached more than Yen 2,000,000.

Equipment for the Railway

The length of the trunk-line is 7.3 miles, while that of the branch line is 1.2 mile. The track is of 45 lbs. with 2.5-ft. gauge. The average grade of the line is 1 in 25. There are 36 tunnels with a total length of 1,365 "ken" on the whole line, and one with a length of 137 "ken" is the long-est. Seven bridges with an aggregating length of 1116-ft. are found on the line. In building the bridges the methods of cantilever erection was adopted.

Name of Bridge	Length	Type	Material
Kurobe Bashi ..	304-ft.	Balanced arch	Steel
Yanagi Bashi ..	96 ,,	Rib arch	Reinforced concrete
Shintani Bashi ..	190 ,,	Rib arch	Steel
Hotokeishi Bashi ..	100 ,,	Warren	,,
Atomore Bashi ..	225 ,,	Braced arch	,,
Kiji Bashi ..	50 ,,	Plate girder	,,
Nekomata Bashi ..	75 ,,	Rib arch	Reinforced concrete

Kurobe Bashi is the largest, and the height between the bridge and the surface of water is 80-ft. The cost for building this bridge amounted to Yen 86,248.

There are six locomotives, each provided with two 10 ton type 50 h.p. motors. Of these, 2 are supplied by Messrs. Jeffrey & Co. of America, and the remainder are the Japanese make, three being from Kawasaki Dock Yard and one, from Toyo Denki Company.

Progress of Works for Power Plants

The total heads of about 3,800-ft. is utilizeable in the district which covers the spot in the neighbourhood of Hiranokoya, about 4,500 ft. above sea-level and also Yanagawara in its downstream, 700-ft. above sea-level.

The district is divided into the following four sections at the latter of which construction work is in progress.

Name of power house	Water volume utilizeable	Head	Generating capacity Maximum	Length of canal	Height of dam
		Feet	K.W.	Ken	Feet
Tsurugigawa ..	1,100	1,295	93,000	3725	300
Sarutobi ..	1,200	1,221	98,000	5230	100
Kanetsuri ..	1,300	682	59,000	3315	80
Yanagawara ..	2,000	406	54,000	—	—

A big reservoir is to be built at Hiranokoya. To complete the whole of the construction work, it is expected that it will take some ten years with a total cost of Yen 130,000,000. When they are completed, about 240,000 k.w. power will be transmitted to the Tokyo district, and about 130,000 k.w. power, to Nagoya, Osaka, Kobe and their neighbouring districts. The transmission line from here to Tokyo are under construction at present.

Book Reviews

The New Catalogue illustrating some of the Oil-Driven Excavators developed by Ruston and Hornsby Ltd., during recent years, has been issued.

To those who are acquainted with this company's work as pioneers and specialists in the production of Crude Oil Engines, it is almost unnecessary to emphasise the unique experience behind their Oil-Driven Excavators.

Describing their engines, they state: Profit from excavating results from Economy in excavating; and it has long been recognised that the employment of a Ruston machine is the surest means to secure both. This, as a general principle, is established beyond dispute by the large number of Ruston Excavators at work—and constantly being put to work—all over the world. In other words, the economy of the Method is universally admitted.

The trend of modern inquiry is to discover maximum economy in the units that go to make up the method, however, and hence the development of the new Ruston Oil Engine Driven Excavators, designed to secure the lowest possible fuel cost, while at the same time giving the same power and output as the older steam machines.

Not only does the Oil Driven Excavator confer added economy, by the convenience of oil fuel is in itself a valuable advantage. Coal and water for steam engines are not always available, or may be available only at a prohibitive cost; while similarly electric current may be costly or impossible to obtain; but oil may be obtained everywhere.

Ruston Oil Engine Excavators possess a unique important recommendation, in that the complete machine, including the crude oil engine, is manufactured in the same factory, combining Ruston unrivalled experience in the Excavator field, with equal experience in the manufacture and installation of oil engines. The combination of the two is effected with a success that would be impossible otherwise.

Electric Light Plant in Anhwei.—An electric light plant has been established at Kienping, Anhwei.

Development of Through Traffic on the Chinese Government Railways

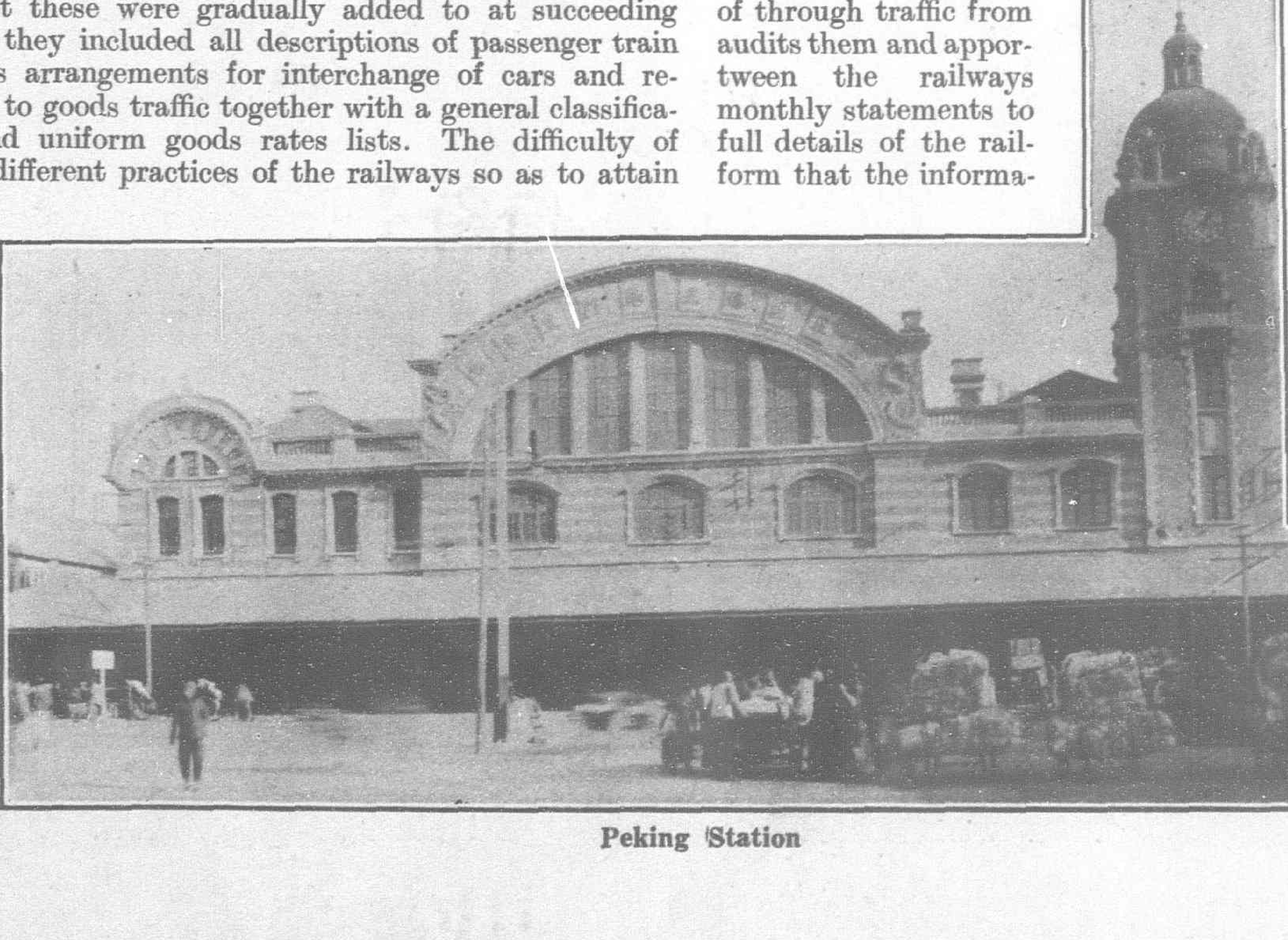
IN these days when the general outlook in China seems dark and people are given to pessimism regarding the future, it is inspiring to note that at least one aspect of transportation is receiving attention. In spite of the enormous difficulties, financial and otherwise, which exist on the Chinese railways, their through traffic arrangements have been improved, while extensive developments have been planned in readiness to be brought into operation immediately the military situation improves sufficiently to permit of this being done. The domestic arrangements and the international relations of the railways have both been well taken care of, the fruits of past years have been preserved, and the seed has been sown for the future. Through traffic development has been largely taken as a matter of course by travellers and merchants who have never realised the amount of labor which has been expended in making the arrangements for their convenience and benefit. The present seems an opportune time to supply a little information on the development of through traffic on the Chinese Government Railways.

Through traffic in China first began to receive attention in the year 1913. Prior to that year the different railways in China were content to function in their own territories with their own particular regulations, fares and rates, classifications of goods, etc. Passengers making a journey over two or more lines has to rebook at junctions ; goods had also to be rebooked, and in many cases had actually to be transferred from the cars of one railway to those of the other when they arrived at a junction station. The inconvenience and delays which arose under those conditions were very great and the growth of travel and trade was thereby heavily handicapped. Another grave disadvantage to trade was caused by the different regulations, classifications, etc., of the various lines, which made it a very difficult matter for a merchant to calculate the freight charges on his goods and so find out whether he could afford to transport them and make a profit on their sale in another district or town. Through traffic arrangements have made these conditions things of the past.

When through traffic arrangements between the railways were first discussed, the need for uniform passenger and goods regulations and a classification of goods applicable to all the Chinese Government Railways became at once evident. Through traffic conferences, composed of members from the different railways, have met periodically and the work of the earlier conferences held consisted in working out uniform regulations of general application. The first regulations drafted related only to passengers, baggage and parcels traffic but these were gradually added to at succeeding conferences until they included all descriptions of passenger train traffic, as well as arrangements for interchange of cars and regulations relating to goods traffic together with a general classification of goods and uniform goods rates lists. The difficulty of harmonising the different practices of the railways so as to attain the uniformity necessary may be imagined and it says a great deal for the spirit of give and take manifested by the delegates attending the conferences that uniformity was finally attained. So successful was the work of the through traffic conferences that the passenger and goods regulations and the classification of goods drafted by them for through traffic were finally adopted for use generally on all the Chinese Government lines. The development of through traffic thus contributed indirectly, but effectively, to the policy of the Chinese Government in unifying the railways into a national system.

Through traffic development in all countries, however, has not been found possible to the fullest extent without some central and neutral authority to which can be entrusted the co-ordination and execution of arrangements, the issue of through tariffs and other matters and the making of plans for the future. China has been no exception to this rule. When through traffic was first inaugurated the duties of management referred to above were entrusted to the Peking-Mukden Railway for a term of five years, with the provision that at the end of that period another railway should be designated to undertake the duties. However, before the expiry of the first period of five years it became very evident, owing to the growth of through traffic, that a special and independent organisation was necessary to undertake the duties of management and for this purpose the Ministry of Communications on the advice of the railways established the Railway Through Traffic Administration which began to function in September, 1918.

The Railway Through Traffic Administration is organised in four divisions, viz., General Affairs, International Through Traffic Affairs, Domestic Through Traffic Affairs and Railway Clearing House. It is controlled by a Director and Co-Director and, to ensure the necessary liaison with the Ministry, the post of Director is held concurrently by the Director of the Railway Department of the Ministry. The Administration is entrusted with the management of all matters relating to inter-line business such as correspondence on through traffic matters, joint station affairs, conferences, regulations and tariffs, through time tables, and the clearing of through traffic revenues together with the records and accounts relating to interchange of rolling stock between the railways. It is also charged with the duty of making investigations and plans for developing through traffic. It has also, in recent years, been entrusted with the preparation of advertisements, publicity and tourist literature and posters for the railways. The interests of the railways are fully safeguarded as the Administration can take no executive action on any matters which have not been first approved by the railways, either by correspondence or at the various through traffic conferences, and subsequently confirmed by the Ministry. In the clearing of through traffic accounts, the Railway Clearing House Division receives the returns of through traffic from the stations, thoroughly audits them and apportions the receipts between the railways interested. It supplies monthly statements to each railway, giving full details of the railway's traffic in such a form that the information can be carried into the prescribed classification heads in the railway's own accounts, and it also supplies monthly abstract accounts for each variety of through traffic which inform each railway what balances it is due to pay, or to receive from other railways for through traffic. The Railway Clearing House does *not* receive or pay out through traffic balances; the



Peking Station

railways settle these directly between themselves on the figures as contained in the above-mentioned monthly abstract accounts. The railways have entrusted all their through traffic accounting work entirely to the Railway Clearing House, thus saving considerable expense to themselves, as the Railway Clearing House can deal with the whole work much more economically than if each railway maintained its own staff for it. The railways safeguard their revenue interests by annually appointing two auditors, who examine on their behalf the accounting methods and the statements issued by the Railway Clearing House and report the result of their examination to the Chief Accountants' Through Traffic Conference.

The Railway Through Traffic Administration also represents the Chinese Government Railways at all international through traffic conferences, while its Railway Clearing House Division receives and checks all statements of revenue for international traffic which relate to the Chinese Government lines, compiles all statements required on their behalf, apportions the revenue and prepares and issues the necessary returns of traffic and settlement accounts to each line concerned.

An annual budget is prepared for the expenses of the Railway Through Traffic Administration, and the railways contribute to the total staff salaries and working expenses according to their shares of the annual revenue from the through traffic dealt with by the Railway Clearing House. The budget, statements of annual revenue, and other necessary details are circulated to the railways concerned for their information. The Ministry also examines and approves the annual budget and audits the receipts, salaries and working expenses of the Administration from the monthly returns, which, with all necessary receipts and vouchers, are prepared and submitted for this purpose.

As the appended statement of through traffic revenue dealt with by the Railway Clearing House shows, the development of through traffic on the Chinese Government Railways has been very great and, but for the unfortunate interruptions of the railway lines which have been caused by military operations at different periods, the development would have been still greater. This development became very marked as the influence of the Railway Through Traffic Administration began to make itself felt in the extension of facilities. The work of this organisation for the first two years largely consisted in planning out extensions of old arrangements and inaugurating new ones. The result of this work becomes evident in the revenue figures for 1921, and the figures for that year, and the increase and new business of subsequent years, give ample justification for the establishment of the Railway Through Traffic Administration and evidence of the valuable work performed by it in the interests of the railways. The figures regarding revenue from interchange of rolling stock have not been give in the statement as this is really not considered " revenue," strictly speaking, but rather payments to each other for the use of each other's cars.

The following is a list of the through traffic facilities as they exist at the present time :—

1. Between the Chinese Government Railways :

    (*a*) The issue of through tickets, i.e. ordinary single, express extra, sleeping berth, return tourist, circular four, party trip and students' reduced fare tickets.

    (*b*) Through registration and insurance of baggage and parcels, together with a C.O.D. service for parcels.

    (*c*) Through booking of all descriptions of miscellaneous traffic by passenger trains.

    The above through bookings are presently confined between the principal stations only but arrangements have been completed, ready to be enforced as soon as circumstances permit, for their extension between all stations on the different lines.

    (*d*) Through booking and transportation of goods between all stations on the different lines.

2. Between China and Japan :

    The issue of through single, return, circular tour and party trip tickets between principal places in China and stations on the South Manchuria Railway and cities in Chosen and Japan by the routes via Chosen, via Shanghai and steamer and via Tsingtao and steamer.

    The through registration of baggage and parcels and C.O.D. parcels service is also in force between the two countries.

3. Between Chinese Government Railways and the Chinese Eastern Railway :

    The issue of through single and return tickets and the registration of baggage and parcels between the principal stations via the route Mukden-Changchun.

4. Between the Chinese Government Railways and the Ssupingkai-Taonan and Kirin-Changchun Railways :

    The issue of through single and return tickets and the registration of baggage and parcels between the principal stations.

In addition to the above, arrangements are almost completed for the through invoicing of goods between stations on the Chinese Government and South Manchuria Railways *via* Mukden. The arrangements for this are now being worked out between the Railway Through Traffic Administration and the South Manchuria Railway, and when they are completed and enforced a very great advantage will be found by traders.

A conference is also scheduled to take place in Tokyo next January to draw up arrangements for the through booking of passengers and their baggage between the principal cities in China and those in Canada and the United States. Invitations to the carriers concerned have already been issued jointly by the Ministry of Communications and the Japanese Department of Railways, and it is confidently expected that great benefits to travellers will result from the meeting.

Negotiations have also been going on for some time for a resumption of the through bookings to Europe which were formerly in operation and which were terminated by the outbreak of the European War. It is hoped that these negotiations will reach a happy conclusion in the near future.

The Chinese Government Railways, in developing their through traffic arrangements, proceeded slowly at first and were content to take one step at a time. However, of recent years the work has been speeded up and the railways have now every reason to be congratulated on the present results, and the public can confidently expect further and more extensive facilities in the future.

Comparative Statement of Through Traffic Revenue dealt with by the Railway Clearing House Division of the Railway Through Traffic Administration for the Year 1919 to 1925, Inclusive.

	Year 1919	Year 1920	Year 1921
Passenger Traffic :—			
Domestic	$2,282,890.71	$2,358,405.45	$3,006,968.53
China-Japan	354,803.85	357,679.40	318,738.41
C.G.Rlys.-C.E.Rly.	—	—	—
North China	—	—	—
Goods Traffic :—			
Domestic	—	545,047.10	1,261,232.60
Total	$2,637,694.56	$3,261,131.95	$4,586,939.54

	Year 1922	Year 1923	Year 1924	Year 1925
Passenger Traffic :—				
Domestic ...	$2,989,286.66	$3,613,533.17	$3,437,890.93	$2,932,494.98
China-Japan ...	189,832.21	222,036.90	220,872.57	244,093.73
C. G. Rlys.-C. E. Rly. ...	92,910.46	184,530.82	296,925.38	536,143.93
North China ...	—	38,703.23	64,661.40	95,939.95
Goods Traffic :—				
Domestic ...	5,595,932.02	9,010,165.84	7,340,544.93	4,801.873.60
Total ...	$8,867,961.35	$13,068,969.96	$11,360,895.21	$8,610,546.19

Network of Electric Railways in Kyoto-Osaka-Kobe

Operating Lines Total 300 miles; Yen 242,000,000 Invested

REFLECTING the steady expansion of the population, the suburban electric railways operating around large cities have made a remarkable progress in Japan, particularly in the Kyoto-Osaka-Kobe districts, with Osaka as its centre.

The operating mileage of suburban electric railways in the Kyoto-Osaka-Kobe districts now totals 304 miles 10 chains; these companies have obtained the license to extend their lines by 196 miles, and in addition, they and some other new companies propose to prolong the existing lines or build altogether new railways to the extent of 947 miles in this part of Japan, making a total of the operating and proposed lines nearly, 1,500 miles.

The investment of seven leading suburban electric railways companies operating in the Kyoto-Osaka-Kobe districts alone totals approximately Y.242,000,000 in round figures.

The following table gives the paid-up capital, loans, and debentures of these companies at the end of the latter semi-annual business term of 1926 : (In Y.1,000).

Names	Paid-up capital	Loans	Debentures
Nankai	43,200	929	—
Hanshin	30,000	5,500	—
Hankyu	30,000	—	10,000
Keihan	46,944	19,919	—
Daiki	20,705	5,950	920
Daitetsu	5,500	—	2,000
Shin Keihan	2,500	18,600	—
Totals	178,849	50,898	12,920

On top of the foregoing investments, the Hanshin (Hanshin Denki Tetsudo Kabushiki Kaisha or the Osaka-Kobe Electric Railway Company, Ltd.) plans to increase the capital by Y.10,000,000 in the near future, while other electric railway companies are also necessitated to obtain funds by means of calling up payment of the unpaid capital or floating loans, in order to extend their lines.

Operating Lines

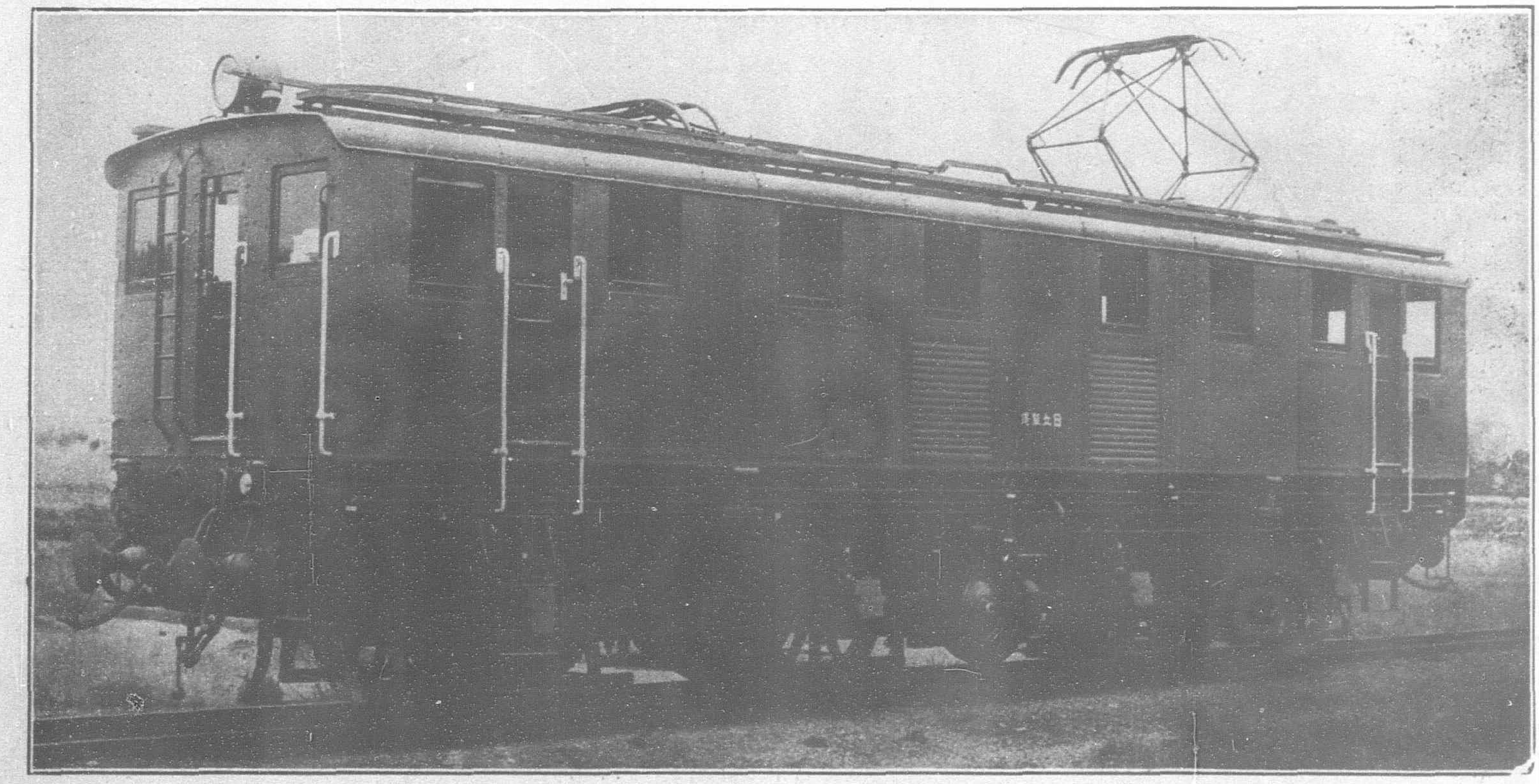
The operating lines of the foregoing seven leading companies and a minor company are as follows :

NANKAI TETSUDO K.K. (the Nankai Railway Co., Ltd.)

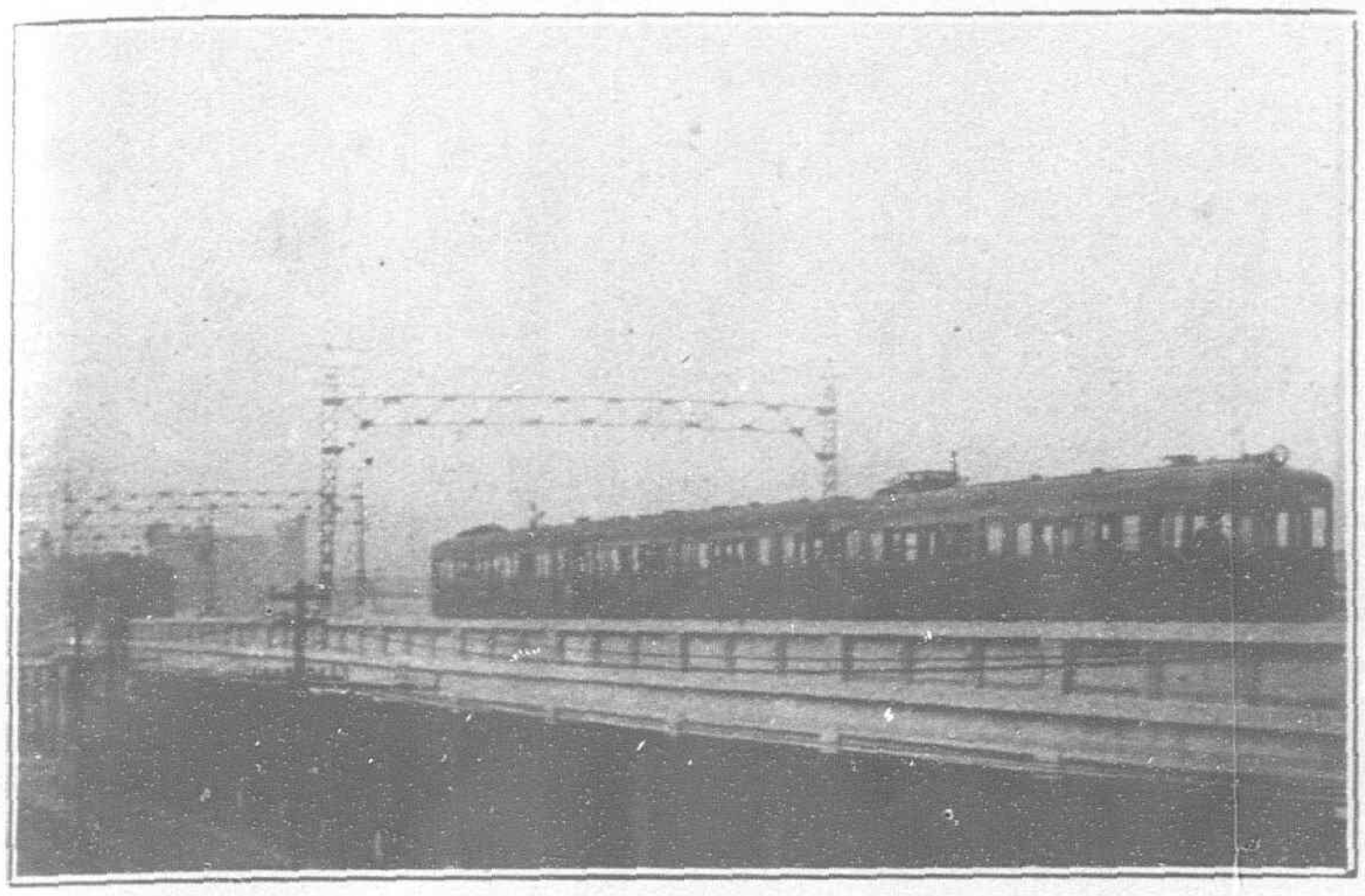
Lines	From	To	Miles and chains
Main line ..	.. Namba	Wakayama	40.0
Branch line ..	.. Tenkajaya	Tennoji	1.37
Ditto ..	.. Hagoromo	Takashigahama	0.74
Koya line ..	.. Shiomibashi	Koya	34.09
Hankai line ..	.. Ebisu	Hamadera	8.63
Branch line ..	.. Shukuin	Ohama beach	0.72
Hirano line ..	.. Imaike	Hirano	3.53
Uemachi line	.. Tennoji	Sumiyoshi	2.75
Kinokawa line	.. Tsuma	Kinokawa	0.27
Totals			93.56

HANSHIN DENKI TETSUDO K.K. ("Hanshin") (the Osaka-Kobe Electric Railway Co., Ltd.)

Lines	From	To	Miles and chains
Main line ..	.. Umeda	Kobe	19.36
Kita Osaka line	.. Nishinoda	Tenjinbashi Rokuchome	2.52
Dempo line ..	.. Daimotsu	Shikanjima	3.37
Koshien line	.. Koshien	Sea beach	1.00
Total			26.45



A Japanese Built Electric Locomotive



The Hankyu Elevated Railway between Osaka and Juso, Using All Steel Cars

Hanshin Kyuko Dentetsu K.K. (" Hankyu ") (the Osaka-Kobe Express Electric Railway Co., Ltd.)

Kobe line	Umeda	Kobe	18.70
Koyo line	Shukugawa	Koyoen	1.30
Itami line	Tsukaguchi	Itami	1.66
Saiho line	Nishinomiya	Takarazuka	4.63
Oitto	Nishinomiya	Imazu	1.46
Takarazuka line	Umeda	Takarazuka	15.42
Mino-o line	Ishibashi	Mino-o	2.39
Total			46.36

Keihan Denki Tetsudo K.K. (the Kyoto-Osaka Electric Railway Co., Ltd.)

Keihan line	Temma (Osaka)	Kyoto	29.67
Uji line	Chushojima	Uji	4.74
Keishin line	Kyoto	Otsu (city)	6.72
Wakayama line	Wakayama (city)	Shinwaka	8.37
Total			50.14

Osaka Denki Tetsudo K.K. (" Daiki " (the Osaka Electric Railway Co., Ltd.)

Main line	Osaka (city)	Nara (city)	19.08
Unebi line	Saidaji	Shingu	14.40
Kokubu line	Yaki	Takata	3.08
Tenri line	Tenri	Hirahata	3.00
Kokubu branch line	Fuse	Onchi	5.64
Horyuji line	Hirabata	Horyuji	2.56
Ikoma mountain climbing cable line			0.56
Total			48.75

Osaka Tetsudo K.K. (" Daitetsu ") (the Osaka Railway Co., Ltd.)

Main line	Abeno	Domyoji	10.24
Branch line	Kashiwabara	Nagano	10.24
,,	Kashiwabara	Domyoji	1.24
Total			21.74

Shin-Keihan Denki Tetsudo K.K. (the New-Keihan Electric Railway Co., Ltd.)

Senriyama line	Awaji	Senriyama	3.41
Juso line	Awaji	Juso	2.26
Tenroku line	Tenjinbashi Rokuchome	Awaji	2.26
			7.93

Nose Denki K.K. (the Nose Electric Tramway Co., Ltd.)

Main line	Ikeda	Myoken	8.09
Grand Total			304.10

The incessant development of the large cities including Osaka, Kyoto, Kobe, Nara, and the progress of the economic and organic relations between these cities and other minor cities, towns, and villages necessitate the electric railway companies operating in these districts prolong their existing lines or construct new lines.

Included among the electric railways now under construction are the following:

Companies	From	To	Mileage
Nankai	Sumiyoshi	Sakai	3.00
,,	Sakai-Higashi	Nishimura	3.40
Hanshin	Deyashiki	Imazu	4.00
,,	Sumiyoshi	Oishi	3.00
Shin-Keihan	Awaji	Kyoto	24.73
Daiki	Onchi	Takata	10.25
,,	Ikoma Cable line		0.53
Hanshin Kokudo	Noda	Iwaya	16.14
Hankai Dentetsu	Ashiwara-machi	Sakai city	5.9
Total			70.54

Note:—Of the foregoing lines, the Nankai's Sumiyoshi-Sakai line is to make the present double-track to the duplicate double-track, and the Daiki's Ikoma mountain-climbing cable line is to make the present single track to a double-track.

Included among the projected lines the license for the construction of which have been obtained the building work may be started any moment are the following:

Companies	From	To	Mileage
Hankyu	Amagasaki	Tsukaguchi	2.30
,,	Itami	Takarazuka	4.40
,,	Kiyoshi-Kojin	Shin-Onsen	0.35
,,	Kobe city line		2.15
Keihan	Joto line		2.42
,,	Toyosaki-machi	Akagawa-machi	2.14
Daiki	Tamatsukuri	Fuse	1.66
,,	Kokubu	Koriyama	10.13
,,	Temmabashi	Hinoshita	9.26
,,	Naka-Homachi	Ishikiri	6.45
,,	Ishikiri	Mt. Ikoma	1.61
,,	Hozanji	Mt. Hozanji	0.50
Hanwa	Tanabe-cho	Wakayama city	36.20
Shin Keihan	Juso	Hiejima	2.40
Myoken Cable	Kichikawa	Higashidani	1.24
Others		approximately	40.00
Total			124.41

Note:—The Shin Keihan Electric Railway Company conceded the right of building the railway between Juso and Hiejima to the Osaka-Kobe Electric Railway (" Hanshin ") Company, in January, this year.

Proposed Lines

At the end of December, 1926, the proposed lines, the license for which was being applied for, totalled 648 miles. The estimated cost of construction of these lines amounted to Y.330,000,000 in round figures.

On top of these proposed lines, the government was in receipt of the application for license to build a 299 miles electric railway from Shibuya-machi, Tokyo, to Kita-ku, Osaka, at the estimated cost of Y.250,000,000. When this line is added to the foregoing proposed lines, the mileage of the projected electric railway around the city of Osaka amounts to 947 miles, and the estimate cost of construction, Y.580,000,000.

It is evident that the foregoing total of the projected lines, the license of which has not been granted, include some lines the present builders of which have no intension of actually constructing them; they want to obtain the right of building such electric railways so that they may be able to sell the right in the future to those who would actually construct the line.

The " Hanshin " plans to build another line between Osaka and Kobe nearer to the seashore. But there are three more lines proposed to be built in the same place.

When all the operating and projected lines are put down on the map, the Kyoto-Osaka-Kobe districts will be covered with a network of electric railways.

Gutta-Percha Industry in Java

THE valuable product known as gutta-percha has little relation to the rubber tree, and it possesses no elasticity. It has special qualities, namely, great isolating capacity, of being acid-proof and lye-proof, hard and tough under ordinary temperature and easily malleable under relatively slight heating. The product is invaluable as a material for encasing submarine and other cables. An important use for gutta-percha was also found in the manufacture of driving belts which demand special requirements, whereas a third application, which doubtlessly may be largely extended, covers the manufacture of golf balls. The outer covering of these balls consists of gutta-percha which should be of an excellent quality as on this depends the durability of the article. Among the less important uses may be mentioned the manufacture of various articles for chemical industries such as packing rings, pumps, casks, pipes, stop cocks, etc.

Formerly, gutta-percha was collected as a forest product exclusively by natives in the primeval forests of Sumatra, Borneo, Malacca and intermediate islands. For this purpose mature and half mature trees of the Palaquium-and Payena-varieties were cut down and the gutta obtained by means of incisions in the bark of the felled trees, the fluid becoming hard in about half an hour. Trade in this forest product, which is as a matter of fact of very divergent quality, was, and is still to-day, concentrated at Singapore.

Owing to the strongly increasing demand for gutta-percha, however, there was danger of exterminating the trees ; this danger was recognized and plans were made for cultivating gutta-trees. As a result, the Dutch East Indian Government made experiments at Tjipetir, West-Java, with growing these trees in a large number of varieties, many of which, however, later proved inferior. In 1901, when the problem of the gutta-percha supply was still urgent, sufficient experience had been obtained by means of experimental cultivations, and it was then decided to establish the Government Gutta-Percha Estate "Tjipetir," intended as an example to private capital. A beginning was at once made with tapping the trees previously planted, whereas 2,470 additional acres were planted between 1901 and 1908. A profitable exploitation, however, proved impossible by tapping, so that the collecting of gutta-percha contained in the leaves (so-called leaf gutta) was resorted to. A factory based on this method was already established at Singapore. It had no plantations of its own but manipulated the leaf purchased from natives who had to transport it over long distances. The increasing extermination of the trees in the forests, however, was the reason why the Singapore-factory, after initial prosperity, was obliged to reduce its activities and subsequently to close down altogether. Several small factories in Borneo and the F.M.S. suffered the same fate, so that until recently the Government estate "Tjipetir" remained the only producer of leaf gutta.

The first efforts to obtain gutta-percha from leaves were made according to the method of extraction by means of solvents. As the product obtained in this way proved to be of inferior quality, the so-called mechanical extraction was resorted to, whereby no chemicals are used.

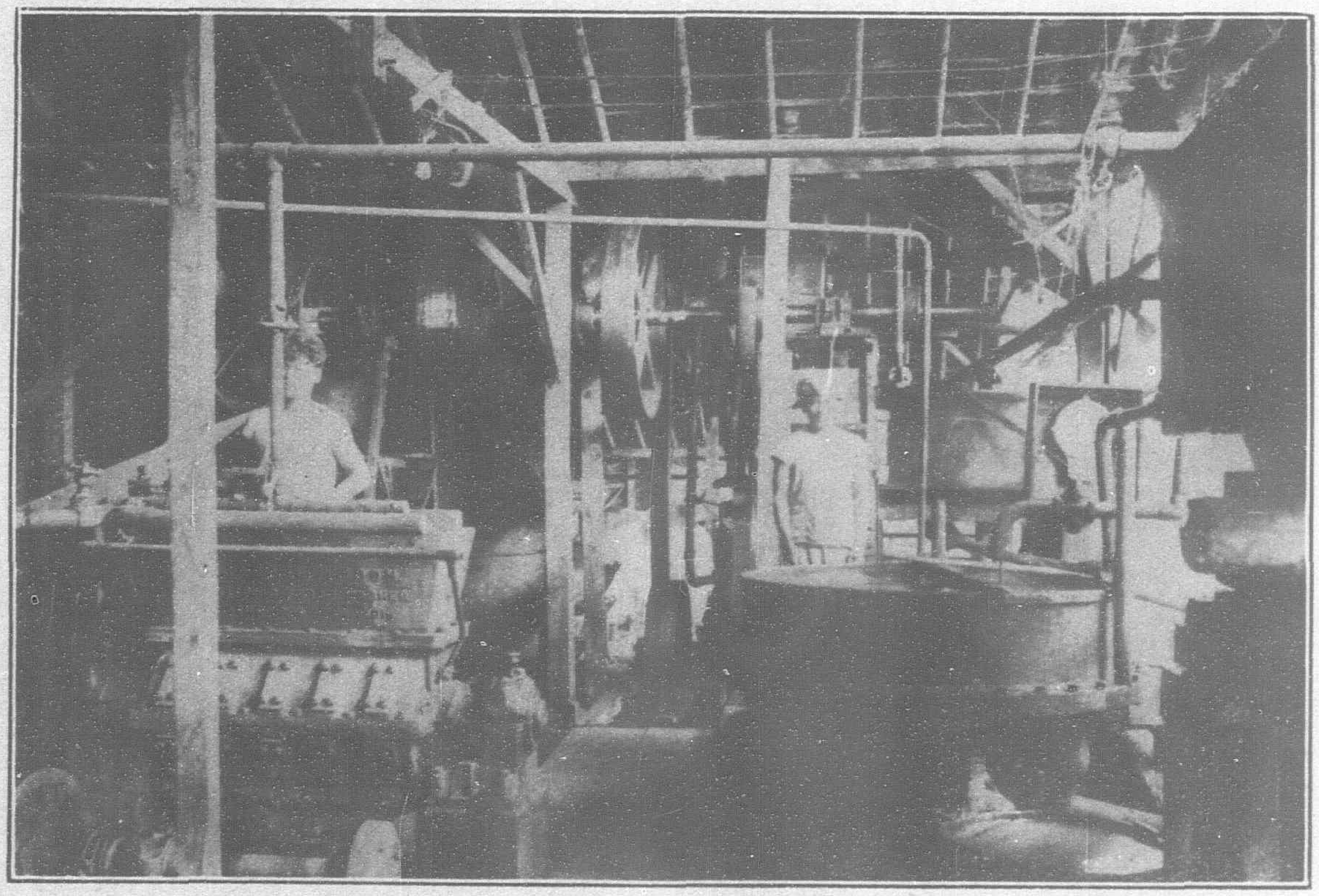
Until 1919, the product was manipulated and improved in an extremely primitive factory only. The establishment of an up-to-date and well-appointed factory, in the last-named year, was for a long time delayed on account of a question of patents. During the same year the planted area of the estate was extended with more than 600 acres.

The total area planted up at Tjipetir, Java, to-day amounts to 3,270 acres. Recently a second estate was opened in the East coast of Sumatra province, called "Majang." Here one may profit by the experience of "Tjipetir," so that it is expected that a higher yield per acre and lower working expenses may be obtained in the next future.

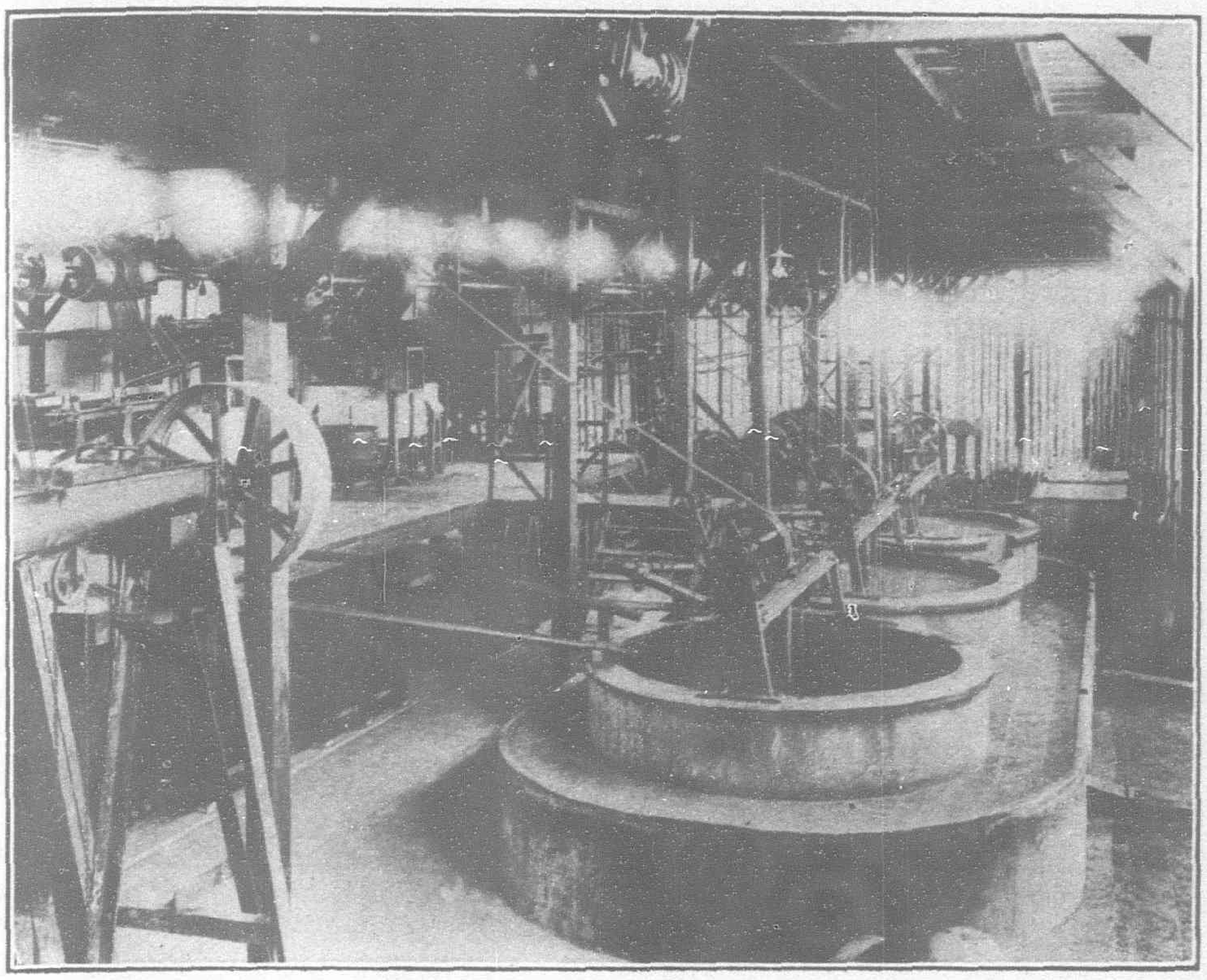
Cultivation and crop. It is only natural that the methods of cultivation underwent great changes in the course of time. The principal modification was due to the transition from tapping the trunks to harvesting the leaves. With a view to tapping, cultivation was initially concentrated on tall trees with trunks devoid of branches, planted with sufficient inter-space. Later on, for leaf-production, low-branching bushes with profuse foliage were emperative. The old plantations were adapted as far as possible to this reversion.

As is the case in tea-cultivation, the desired shape of the bushes is obtained by means of pruning. After the young plants have reached a height of about 1 foot and a circumference of 3.5 inches they are topped. Subsequently a number of shoots are preserved, which in turn are also topped, until the necessary spread is obtained. As the Palaquium is a tree which may attain a height of 130 feet and even more, it is naturally impossible to obtain such well-shaped bushes as in the cultivation of tea.

In harvesting, the fundamental difference between gutta-percha and tea is that whereas in the latter the youngest leaves are collected, in the former exclusively the leaves that are on the point of falling and which contain the highest standard of gutta, may be picked. About sixty per cent. of the leaf crop is obtained in this way, viz., by picking, the remaining forty per cent. by regular pruning of the bushes. When this takes place, all leaves, namely, old as well as young, and also green twigs are harvested. The so-called yield, *i.e.*, the number of lbs. of gutta-percha obtained from one



Interior of Old Government Gutta Percha Plant Closed Down in 1919



Heating Kettles, Separators and Washers in the New Factory "Tjipetir"

hundred lbs. of leaf, is far lower in the pruned than in the picked leaf.

The average crops of fresh leaf during recent years amounted for the entire Government estate to more than 3,560 lbs. per acre, of which 2.6 to 2.7 per cent. gutta-percha were obtained. From the best parts about 8,900 lbs. of leaf per acre is harvested. This is the quantity nowadays counted upon in favorable circumstances when laying out a new estate.

About 90 per cent. of the gutta-percha contained in the leaf may be obtained by mechanical means. The yield varies according to the seasons, it being, moreover, dependant on the proportion between pruned leaf and picked leaf, on the periods of growth and especially on the moisture standard of the leaf.

Manufacturing. When compared to the majority of other tropical agricultural produce, the preparation of gutta-percha is fairly complicated; moreover, it demands a large supply of energy and heavy machinery which is subject to much wear, and finally a large quantity of steam is indispensable.

Gutta-percha occurring as a milky juice in inarticulate cells in the leaves, coagulates in these cells immediately after picking and forms small threads. In order to separate these threads from the leaf-fibre, the leaf is cut up in chopping machines, bruised in crushers and afterwards very finely ground. The leaf-pulp is then mixed with water to a thick substance and left to ferment for about 72 hours in a collecting tank.

In the so-called heating kettles the substance is diluted with warm water to a certain concentration and gradually heated to 70° C. by means of steam, under continual stirring. The following then takes place.

The threads of gutta are first separated completely from the leaf-fibre. After the temperature, which makes them pliable and sticky, has been attained, the rotary movement flings them together, so that they form curiously shaped flakes, the leaf-fibre being completely imbibed with water. The so-called boiling demands much practice; on this depends in the first place the attainment of the highest yield of gutta and of the purity of the product. When the substance is sufficiently boiled, it is poured into separators, *i.e.*, large round concrete receptacles containing powerful rotators and filled with cold water. The leaf-fibre-refuse sinks to the bottom, the flakes of gutta being lighter than water, float to the surface and are scooped off.

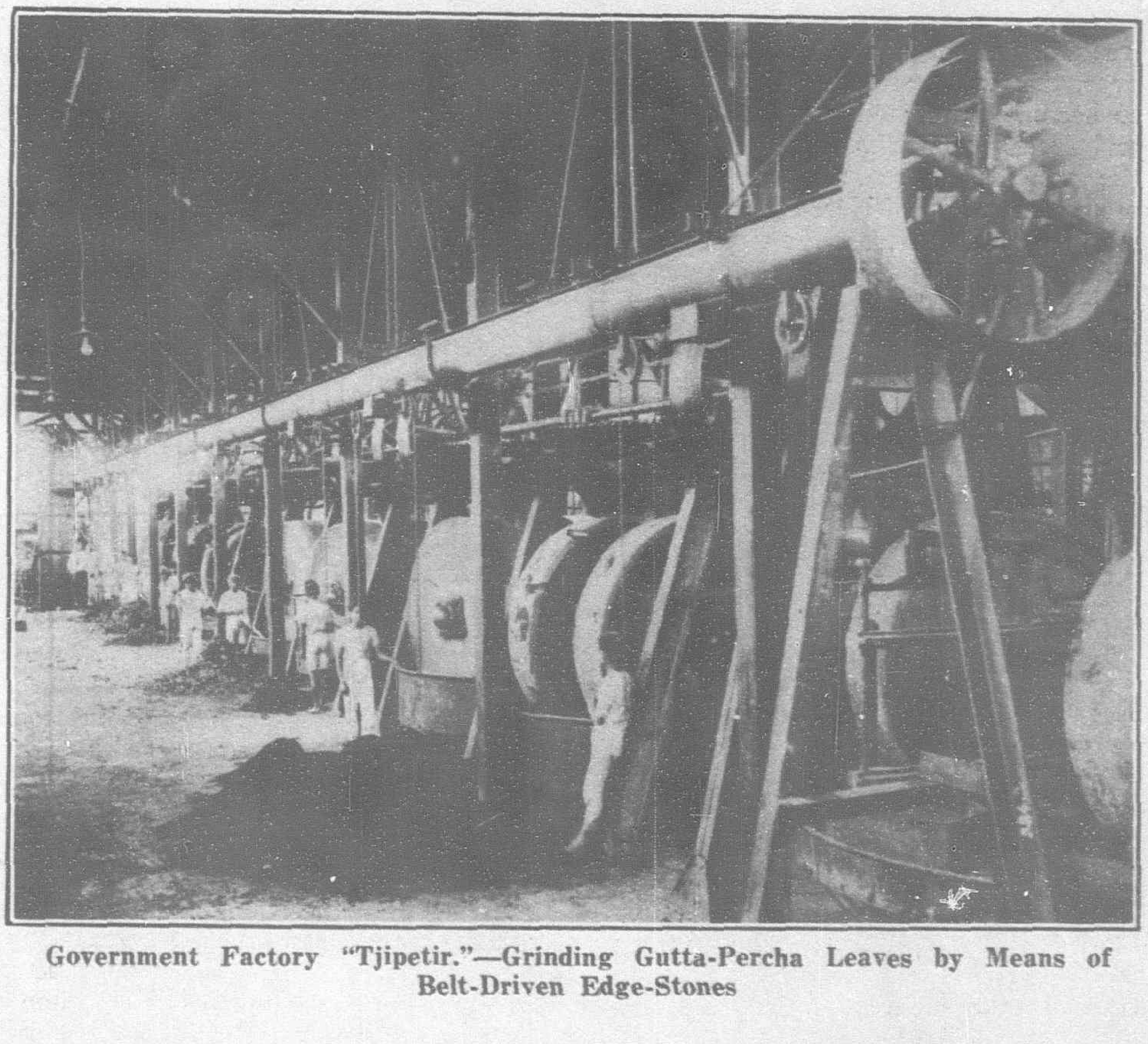
The rotators drive to the surface all flakes floating in the water or those that have sunk to the bottom with the refuse. The latter are flakes which contain so much leaf-fibre that they cannot float. The powerful rotation cleans them and they rise to the surface. Stirring is continued until no more flakes appear on the surface. The refuse flows from the separators into large collecting tanks. The particles, which are not yet sufficiently broken and consequently contain a certain quantity of gutta, are again collected and once more ground and boiled.

The scooped-off flakes still contain a high percentage of impurities. As these impurities (especially those consisting of the extremely fine leaf hairs) have an exceptionally detrimental influence on the electrical qualities of the product, the flakes undergo an additional and fairly complicated cleaning process, *viz.*, they are cut up and the impurities sink to the bottom; then the flakes are washed in warm water in kneading-machines. The cleaned gutta-percha, which is now of an extreme purity, is finally compressed into blocks, weighing 6 Kilos (abt. 13 lbs.) each, by way of hydraulic pressing, and may be packed directly after cooling in cold water. When packed, the blocks yet contain about 20 per cent. of moisture which, owing to the compactness of the blocks, can only evaporate slowly during storage.

Moist storage is desirable with a view to the durability of the product.

The bark collected by pruning the bushes is manipulated in the same way as the leaves, the woody twigs being previously crushed in disintegrators.

The transport of leaf, leaf pulp and wet pulp in the factory, until the latter has reached the boilers, takes place automatically by rail, blowing installations, propellors and elevators respectively.



Government Factory "Tjipetir."—Grinding Gutta-Percha Leaves by Means of Belt-Driven Edge-Stones

Since 1919, the yield was increased from 1.8 to largely 2.4 per cent. Moreover, it should be borne in mind that formerly the product contained 10 per cent. more of impurities than such is the case to-day.

The above described mechanical process, is, however, inefficient when separating the gutta-percha from fallen leaves, as the threads of gutta adhere to much to the leaf-fibre. The same trouble is also experienced when, owing to stagnation in the work, the leaf is liable to getting heated. A prime requisite in obtaining a high yield is that the leaf when supplied should be as fresh as possible and should be manipulated as soon as possible.

Quality and price. The quality and price of wild gutta-percha, being collected from a large variety of trees, differ widely. The product shows considerable differences in chemical composition, the value moreover being strongly influenced by differences in the percentage of impurities and water, and by voluntary admixtures. Consequently, official quotations in Singapore, which are of relative value only, vary between $50 and $450 a picul (133.3 lbs.).

Apart from differences in the moisture content and impurities, from admixtures, and especially from adulterations with substances detrimental to certain purposes, the quality of gutta-percha is chiefly dependant on the considerable differences in the proportions existing between the pure carbohydrate gutta and the resins. The composition of these resins may differ widely and may influence the quality as well.

In comparison to all other kinds, the "Tjipetir" gutta-percha has the lowest percentage of resin, *viz.*, calculated in pure dry substance about 9 per cent. of resins to 91 per cent. of pure gutta.

For comparison's sake it should be mentioned that the very best qualities of wild gutta contain about 20 per cent. of resins and 80 per cent. of gutta, while the so-called "medium grades" and balata*,) which has of recent years replaced these in increasing measure, contain a percentage of resin varying between 40 and 50.

Generally speaking, it may be said that the lower the resin-content, the better are the qualities of gutta-percha. Elasticity, resistance against wear, durability, viscosity, adhesiveness,jesilience, temperature of plasticity are all higher according as the percentage of resin is lower. This knowledge is applied to the use of gutta-percha for different industries.†)

It stands to reason that "Tjipetir" gutta-percha may have a special significance in this connection, the composition being under continual control of a well-fitted chemical laboratory, is quite constant and the product deliverable under certain guarantees.

The already mentioned balata initially seemed to be a sufficient compensation for the decline of wild gutta-percha in the East, at least for the majority of uses. There have been indications, however, that in the long run the natural supplies of balata threaten to become exhausted and that it is necessary to penetrate further and further into the jungle in order to collect it. Consequently the product is becoming scarcer and dearer and frequently also more and more inferior. The large consuming industries are thus following with interest the development of the gutta-percha estate industry.

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*Balata is a product closely allied to gutta-percha of medium grade; its qualities having been discovered at a later period. It is obtained from Central and South American countries and has gained in importance according as East Asiatic gutta varieties became scarcer owing to extermination of wild trees.

†In order to obtain the different percentages of resin desired, either, grades with a high percentage are freed from resin by means of extracting fluids, or, superior grades are mixed with resinous inferior grades.

Cuban Sugar for the Far East

A New Trade Development

TWO hundred and fifty thousand tons of Cuban sugars were marketed in the Far East last year. Despite the distance, freight charges and competition of Java, Formosa and the Philippines, the Cuban planters were able to manufacture the raw product and send into Asiatic markets an amount equivalent to the limitation originally set upon Philippine sugars entering the United States duty free. The Cuban planters are now looking towards Asia as an outlet and will make every effort to expand the trade already created. Much depends upon maintaining a proper price level, but the consuming power of China and Japan is increasing to the extent that Cuba can make a small profit even at the lowest prices. In a highly developed and intensified industry where the cost of production is largely determined by the volume of output, the Cuban centrals will find it profitable to cultivate this market. The experience of last year, teaches that consumption follows even excessive production, but only at a great sacrifice to the producer. In Cuba, however, where the costs of planting are reduced to a minimum by reason of the large number of ratoon crops, the manufacturing cost is controlled by the working capacity of the mills. If these mills can be operated continuously during the crop period and markets found for the product even at a lower price level, the increased demand will make for a decrease in cost. When the price can be kept within the purchasing power of the masses of China and Japan, consumption will increase to an extent that will soon tax the producing capacity of the world.

The Czarnikow-Rionda sugar review for 1926, stresses the important part the Far East may assume in the consumption of sugar. By March 31 of last year, the Cuban production had passed the five million ton mark with prices down to their lowest level. The cost of production was 2.1875 cents and freight 3.96 cents, with no relief in sight. The economic structure of the island was threatened and a run on the banks only averted by special legislation reducing the crop ten per cent. and making similar restrictions for the next two crops. When the situation was gloomiest for Cuba owing to the falling off in the demand from Europe a curious development was taking place in the Far East.

Here the remainder of the Java crop of 1925-1926 for export was only about 50,000 tons on January 1.—The Australian surplus and the Mauritius crop, part of which had in former years gone to British India, were withdrawn to the United Kingdom. The prospects for the Java crop of 1926-1927 were not particularly favorable and prices were low, which assured a good demand for consumption. The Far East was isolated from other world markets and commanded a price that was about 2s. (.43c.) above world values. With this high premium Cubas were at a level to compete. So it happened that during the dull spell experienced in the European demand extensive shipments of Cuba were made to Japan and China, though they could by no means compensate for the temporary loss of the European market. Cubas were even sent to Australia and New Zealand to offset an excess in shipments of Australian sugar to the United Kingdom and probably for the first time in the history of sugar 3,000 tons of Cubas found their way to British India while at about the same time European crystals were shipped to China. British India was a heavy buyer of both Javas and European refined. Total exports from Cuba to the Far East amount to about 250,000 tons for the year and it is to be hoped that this market will be further extended and stimulated, which, however, requires enterprise. What greatly surprised the sugar world was the sale by the Java trust of a large quantity of 1928 sugars at prices much below the present level. It is hard to explain why these sales should have been made, but it does demonstrate the very speculative nature of the Java market.

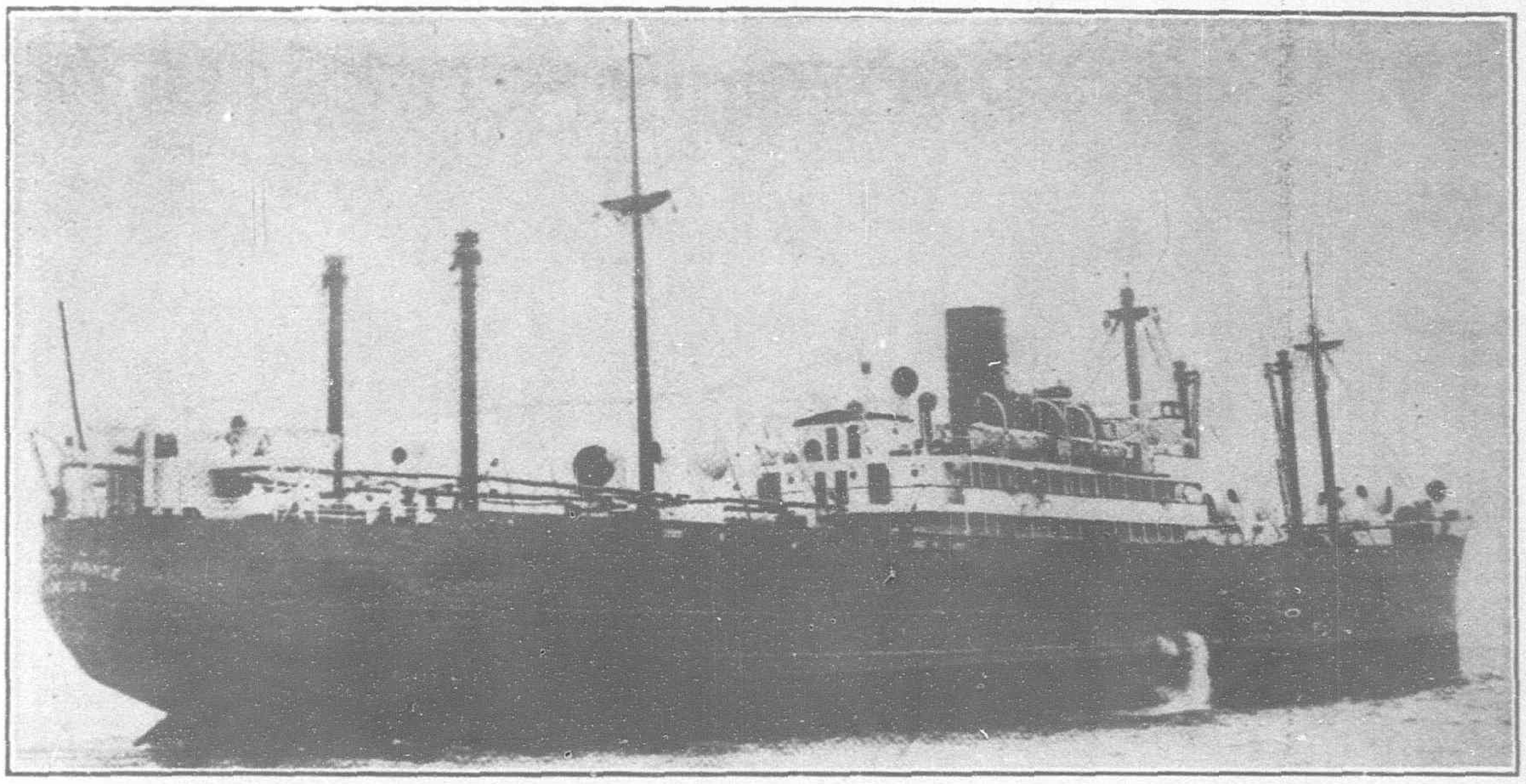
It is estimated that Cuba will have another 250,000 tons this year for Far Eastern destinations. Orders for over 50,000 tons have already been placed. If Cuba can profitably dispose of this volume of sugar to these low-priced markets, she can with equal profit dispose of ten times that amount and keep her mills operating on a scale assuring the lowest cost of production. There is a limit naturally to Cuba's producing capacity, but if the second and third qualities of sugar that now find little demand in Europe and America can be disposed of in the Far East at prices meeting the pocket book of the Asiatic consumer, the consumption will be greatly stimulated. This apparently, is what the Cuban planters have in mind for the coming year. At a cost of 2.1875 cents per pound with freight added, these sugars can be laid down in China and Japan under the prevailing market prices in the United States and provide cargoes for steamships that are sorely needed.

Swatow-Canton Highway.—The Swatow Municipality has made arrangements for completion of the highway connecting Swatow with Canton, it is reported by the Asiatic News Agency. The necessary funds for the work have been appropriated. A section of the road, about 8,400 *li* in length, has been laid already; the rest is now under construction.

Fast Motorships in Far Eastern Trade

FURNESS Withy's five new 10,000 ton, 14½, knot twin screw cargo motor-liners for the Prince Line New York-Far Eastern service definitely mark the advent of the fast motor freighter which must eventually run the slower and more expensive steamer out of business. Sailing from New York on March 25, MALAYAN PRINCE, first of five new German-built motor cargo liners reached Yokohama on schedule in the reasonable time of 35 days. Keeping well within her schedule she returned to New York on July 20, thus completing her maiden round-the-world trip in 119 days. The average speed for the whole distance works out at slightly under 14 knots which is very reasonable when the vicissitudes of a trade such as that in which MALAYAN PRINCE is engaged are taken into account. On her trial trip, when light, a speed of nearly 16 knots was recorded and at certain periods of the maiden voyage 15 knots were logged. Weather conditions at other periods were responsible for reducing the speed to 13 knots. Monsoon, typhoon, Atlantic gale—these are all factors which have to be taken into account when fixing the maximum sea speed for a ship for this branch of Far Eastern trade.

MALAYAN PRINCE ran her trial trip and left almost immediately for New York where, after a stay of only a few days, she commenced her maiden voyage calling at the ports shown in the schedule and staying only sufficient time to load and discharge cargo. Except for attention to minor repairs therefore, there has been no chance of taking down the main engines until her return to New York. They have run steadily with an average all-purpose fuel consumption of 25 to 25.7 tons of Diesel fuel oil and 37 gallons of lubricating oil per day. This, of course, is a maiden voyage result which will without question be improved on the next voyage. It is also anticipated that the schedule will be shortened. JAVANESE PRINCE, the second ship, left New York on April 20 arriving at Yokohama 2 days ahead of her schedule and about 7 days ahead of steamers employed on this service, until the advent of the new motorships. The remaining units of the new fleet left at regular intervals after this and are now all in service.



"Malayan Prince," First of Five Large Prince Line Motor Freighters

Chief Characteristics of Prince Line Motorships

Length, b.p.	441-ft. 9-in.
Beam, molded	60-ft. 0-in.
Depth to shelter deck	42-ft. 3-in.
Draught	27-ft. 6-in.
Gross register	6,376 tons
Deadweight capacity	10,000 ton
No. of holds	5 & 1 deep tank
Speed (loaded)	14½ knots
Length of motor room	59-ft. 6⅜-in.

Their designed loaded speed of about 14½ knots is faster by 2½ to 3 knots than any other motorship at present employed in the New York-Far Eastern trade and faster than the majority of steamers.

Considerable interest was manifest when Furness Withy last year, passing over British shipyards on account of their higher bids, went to the Deutsche Werft, Hamburg, with orders to construct five high class freight carrying motorships of 10,000 tons deadweight capacity and 14½ knots speed. This speed in itself was something of an innovation because even as recently as last year very few purely freight motor vessels of over 12½ knots speed were being built. It was realized by the owners, however, that shippers at the present time in certain trades are demanding speedy transit for their freight, and that generally speaking the faster ship gets the better class freight to handle. For a similar cargo carrying capacity, the motorship, other things being equal, can be designed with a higher speed than a steamer. With the steamer an increase in speed of a few knots may conceivably require an increase in overall dimensions owing to the increased size of machinery and bunker space. The motorship, however, requires a smaller space both for machinery and fuel. Furthermore, a 14½ knot motorship burns only 23 to 25 tons of fuel oil per day as against the 75 tons of the steamer.

MALAYAN PRINCE and her sisterships ASIATIC PRINCE, JAVANESE PRINCE, JAPANESE PRINCE and CHINESE PRINCE are vessels of shelter deck type with a short forecastle and a midship house which has accommodation for the crew, at shelter deck level, and for the engineer and navigating officers and eight passengers on the next deck above. Above this again is a boat deck. There are two tiers of 'tween decks. All deck auxiliary machinery is electrically driven, and thirteen 5-ton and four 3-ton winches take care of the cargo. In addition, there is one 30-ton and one 40-ton derrick for handling heavy lifts. A stack of normal size takes the main engine exhaust and the profile is completed with a straight stem and a cruiser stern.

The vessels are powered by 2 sets of 8-cylinder A. E. G.-B. & W. engines with cylinder diameter 89½-in. by 47-in. stroke, developing collectively 5600 b.h.p. at 125 r.p.m. These engines are designed to give the ship when loaded to full capacity a speed of 14½ knots. An exhaust gas heated boiler, with a working pressure of 50-lb. per sq. in. is arranged on the port engine exhaust system. There are three auxiliary generating sets, each driven by a 3-cylinder 150 b.h.p. A. E. G.-B. & W. trunk piston engine, supplying current for the deck and engine room auxiliary machinery, and these operate in port to supply the necessary current for the deck auxiliaries.

Malayan Prince Maiden Voyage Schedule

PORT	DATE	DAYS FROM N.Y.
New York A.	March 15	—
„ S.	March 25	
Hampton Rds. A. ..	March 26	1
„ S... ..	March 27	

From "Motor Ship."

Sport	Date	Days from N.Y.
Colon A.	April 2	8
Panama S.	April 2	
Los Angeles A.	April 11	17
,, S.	April 12	
Yokohama A.	April 29	35
,, S.	May 1	
Kobe A.	May 3	39
,, S.	May 4	
Shanghai A.	May 7	43
,, S.	May 10	
Hongkong A.	May 13	49
,, S.	May 13	
Manila A.	May 15	51
,, S.	May 18	
Ilo ilo A.	May 19	55
,, S.	May 21	
Cebu A.	May 22	58
,, S.	May 23	
Sourabaya A.	May 27	63
,, S.	May 28	
Samarang A. & S.	May 29	65
Batavia A.	May 30	66
,, S.	June 2	
Singapore A. & S.	June 11	77
Penang A.	June 15	82
,, S.	June 16	
Suez A. & S.	July 1	98
Port Said A. & S.	July 2	99
Boston A.	July 17	115
New York A.	July 20	119

Prince Line plans to maintain its five new motorships on a round the world service from New York back to Boston and New York via Newport News, Panama Canal, Los Angeles, Yokohama, Kobe, Shanghai, Manila, Sourabaya, Samarang, Batavia, Singapore, Penang and Suez. General cargo, comprising such commodities as machinery, flour in bags, lubricating oil, cotton, tobacco and cigarettes is carried outwards from New York and Newport News and unloaded at all ports up to Manila, which marks really the end of the outward portion of the voyage. The return cargo, picked up partly at the unloading ports and partly at the ports of call in the Dutch East Indies and in the Malay Peninsula comprises tea, sugar, rubber, Chinese groceries—a generic term for foodstuffs imported for Chinese resident in the United States comprising anything from a 1,000 year old egg to edible bird's nests—pepper, spices, rattans, bamboos and rubber.

Malayan Prince carried from Manila to New York 860 tons of coconut oil in her deep tank. This liquid cargo is not handled by the ship pumps in any way but is loaded and pumped out by shore people. It must be at a temperature of about 110 deg. Fahr. before it can be unloaded.

The forward and aft peak tanks of these ships are fitted with special pumps and pipe lines to enable them to load and discharge liquid rubber or latex, as it is called.

It is evident, although it is as yet early days, that these new motorships are making large inroads upon the Far Eastern trade. The effect of their presence must be felt even by rival motorships because the new ships are offering to shippers something which is definitely faster than anything at present on the route. This is a powerful weapon in the hands of the owners since they can, and do, advertise their service as "an improved service— which will be further improved upon," a conservative schedule having been purposely adopted for the start. As far as rival steamers are concerned, the owners of the new ships have the pull of offering to shippers something which is the latest and most modern in every way—a psychological pull of some value. Following is a table giving the ports of call and scheduled times for the new Prince liners. This takes care of the outward journey as far as Manila and is expected to be improved on as the new ships settle down into routine working conditions.

Prince Motorliner Schedule

Port	Days Taken
Yokohama	35
Kobe	39
Shanghai	43
Hongkong	49
Manila	51

Dates of arrival and departure of Malayan Prince on her maiden voyage are also shown. It will be noted from this that she made the Atlantic and Mediterranean "leg" of the voyage in very reasonable time. Very little, if any, falling off in speed was noticed which could be attributed to foul bottom conditions, and such falling off might quite well be expected after a lengthy round the world voyage. This is to be attributed to the higher speed at which this particular ship operates. It is one of the advantages of the high speed freight motorships compared with a slower steamer or even a slower motorship.

Fueling for the round trip New York to New York is carried out four times. Sufficient is taken on at New York to take the ship to Los Angeles, a second quantity loaded at Los Angeles lasts until Singapore is reached, while the amount taken on at Singapore carries over as far as either Port Said or Gibraltar, a final load being taken at one of these two ports.

Among other lines operating in round the world services running out to Far Eastern ports and home via the Mediterranean may be mentioned the Kawasaki-Roosevelt Line, agents for whom are the Kerr S. S. Co., Inc.; the Dollar Line, and the Barber Steamship Lines, Inc. The Bank Line runs out to Far Eastern ports with 11 knot motor freighters, but these ships generally return to New York via the Pacific. Each ot these has a slightly different itinerary and schedule. Kawasaki-Roosevelt Line maintains a joint motorship-steamer service, using the 6 motorships of the Silver Line Ltd. in conjunction with steamers of the Japanese "K" Line. Silver Line fleet comprises 3 Doxford-engined and built ships of about 8,000 tons deadweight capacity and 10 knots speed, 2 Swan Hunter-engined and built ships of 8,600 tons deadweight capacity and 11 knots speed, and 1 J. L. Thompson-built and Doxford-engined ship of 7,900 tons deadweight capacity and 11 knots speed. Silver Line has now under construction 6 motorships of 9,000 tons deadweight capacity and 14½ knots speed, which are expected to be ready for service by the end of the year. Prince Line will then have to face the competition of new ships, just as fast and of practically the same cargo capacity, as its new ships. Dollar Line round-the-world fleet comprises four 535-ft. Shipping Board liners of "President" type. These are passenger and cargo steamers of about 13,000 tons deadweight capacity and 15 knots speed, having accommodation for over 400 passengers. There is probably very little difference in the respective cargo carrying capacities since the fuel capacity of the steamer is proportion must be considerably larger than of the motorship. The fuel consumption of a steamer, too, is unquestionably higher than that of a motorship. In fact, there is no doubt that the large steamers will have to be run very economically and their operation carefully watched in order to compete successfully with the new motorships, where cargo is concerned.

Following is a table showing the difference in the schedule followed by the three principal round the world routes. It will be seen that the Dollar Line omits the Dutch East Indies calls.

Round-the-World Service Itineraries

Prince Line	Kawasaki-Roosevelt Line	Dollar Line
New York	New York	New York
Newport News	Norfolk	Havana
Los Angeles	Savannah	Los Angeles
Yokohama	Los Angeles	San Francisco
Kobe	Yokohama	Honolulu
Shanghai	Kobe	Kobe
Hongkong	Dairen	Shanghai
Manila	Taku Bar	Hongkong
*Samarang	Shanghai	Manila
*Sourabaya	Manila	Singapore
*Batavia	Macassar	Penang
Singapore	Samarang	Colombo
Penang	Sourabaya	Suez
Suez	Batavia	Port Said
Gibraltar	Singapore	Alexandria
Boston	Medan	Naples
New York	Colombo	Genoa
	New York	Marseilles
		Boston
		New York

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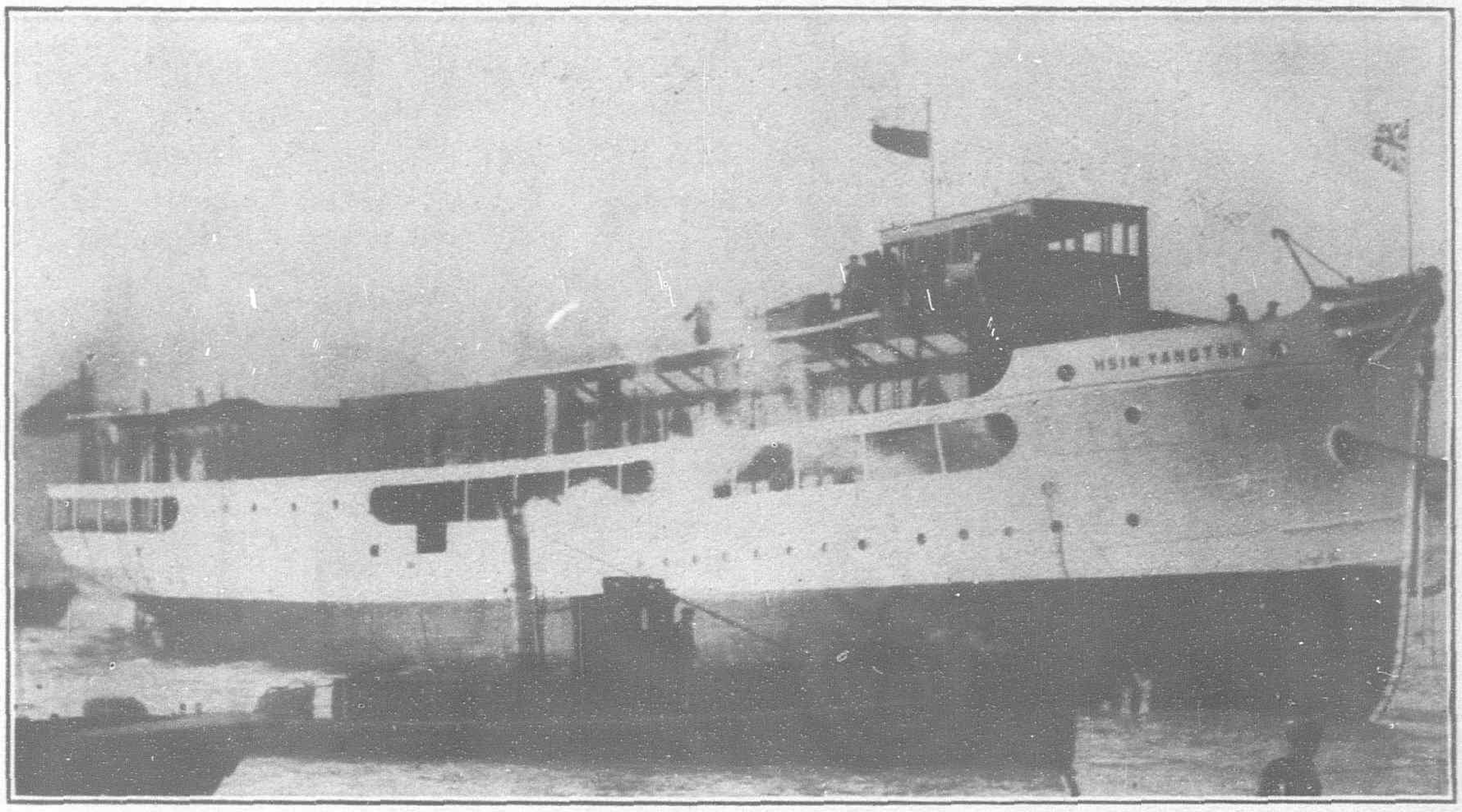
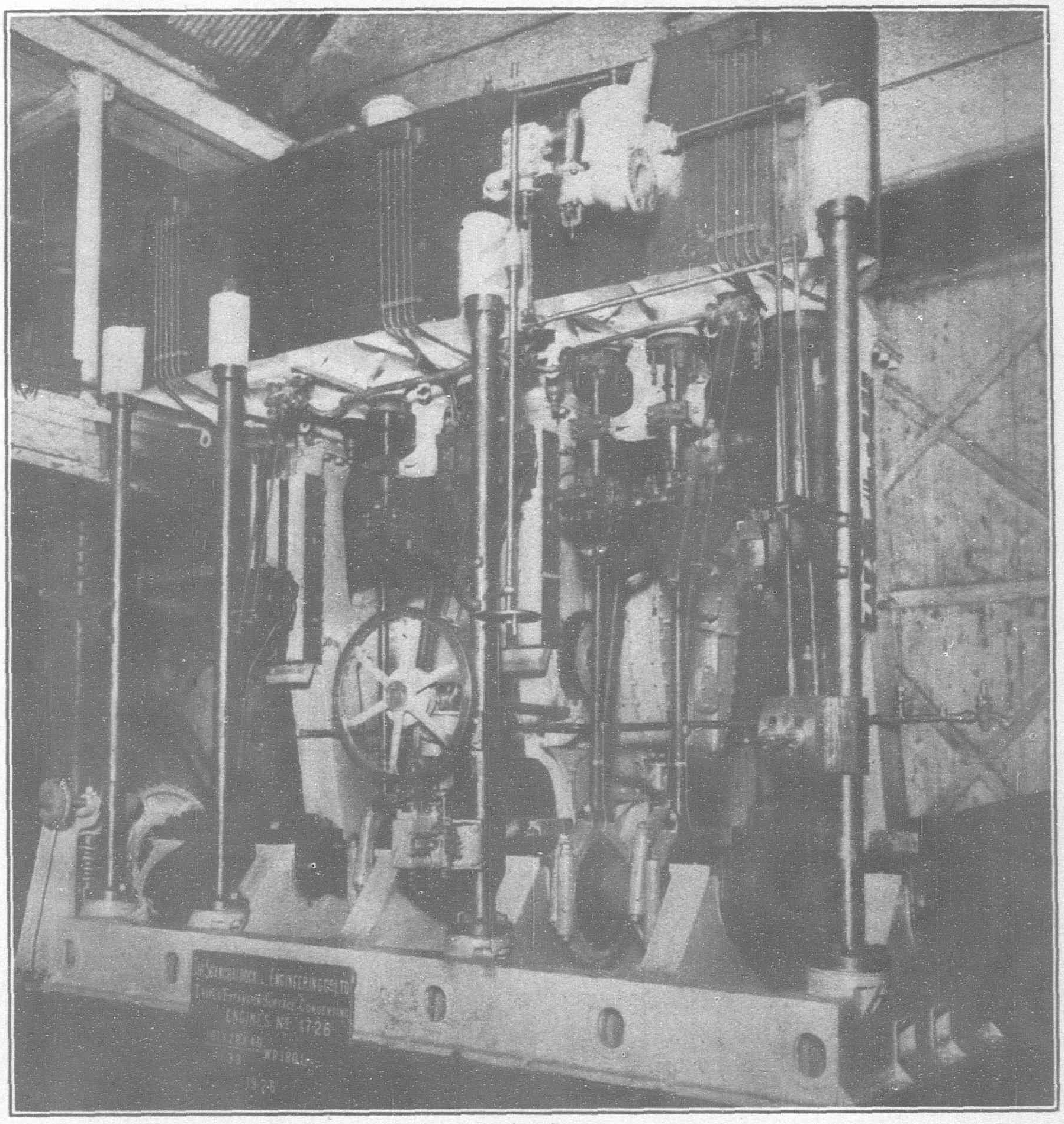
*As cargo offers.

Launch of the "Hsin Yangtze"



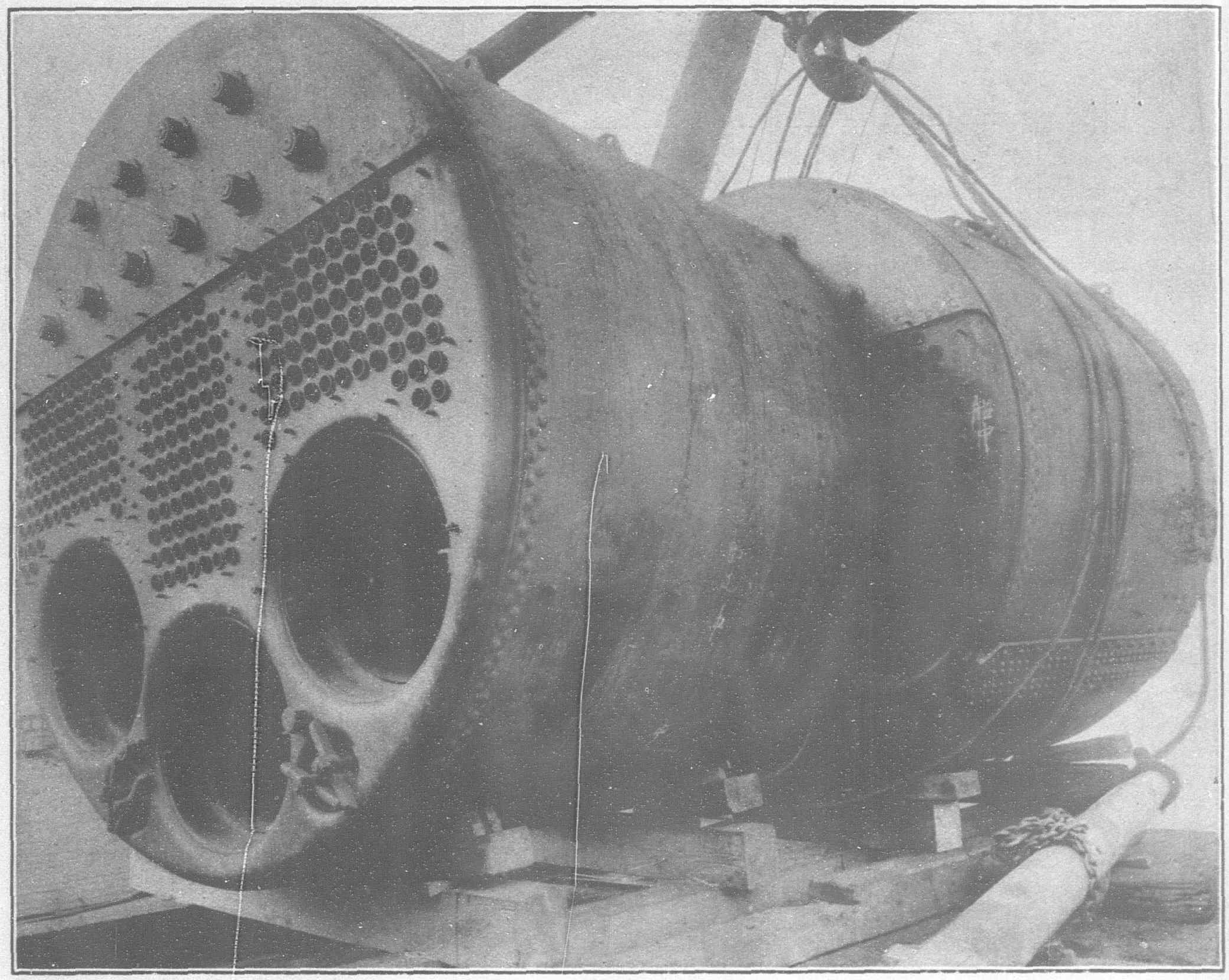
The "Hsin Yangtze"



Engine Room

THERE were many interested spectators at the Pootung Shipyard af the Shanghai Dock & Engineering Co., on December 21, to witness the launching of the Shanghai Pilot Boat Co.'s new s. *Hsin Yangtze*. Mrs. A. Hotson, wife of the Shanghai Harbour-master, performed the ceremony. In the course of the post-launching speeches, Mr. H. W. Lester, chairman of the Shanghai Dock & Engineering Co., spoke on behalf of that company. "The *Hsin Yangtze* so successfully launched," he said, "marks a further step in the progress of this port. Built under Lloyd's special survey for their highest classificationshe is 190-ft. long overall and 34-ft. in breadth. She is to be fitted with modern triple expansion engines of over 1,200 horse-power and in addition to this no less than 15 sets of independent steam engines are fitted for the different auxiliary requirements. Many of you present can look back about 25 years when the pilot service was maintained here by sailing schooners, and, when the first steam pilot boat came into service in 1902 and the second, the *Yangtze*, in 1906 it was felt that the last word was said. But Shanghai was just beginning to open out and now with the "*Hsin*, (or new,) *Yangtze*" I think that most of us agree that the present and near future is well provided for. During the construction of the vessel we have had a great many difficulties to contend with including the disastrous coal strike in Britain and civil wars and other troubles very near our own doors, but I hope our efforts to carry out this contract without undue delay will appeal to our friends, the Shanghai Pilot Boat Co. It is the first large vessel we have built for them and while they may not be in the market in the near future we trust the results will justify our hope that the next vessed will be built in the same berth as this one."

The *Hsin Yangtze*, which has been built to the order of the Shanghai Pilot Boat Co. (1923), Ltd., is an improved design on the *Ling Kong* built locally for the same owners two years ago, and has been specially constructed to meet the requirements of the Pilots for work at the approaches to Shanghai.

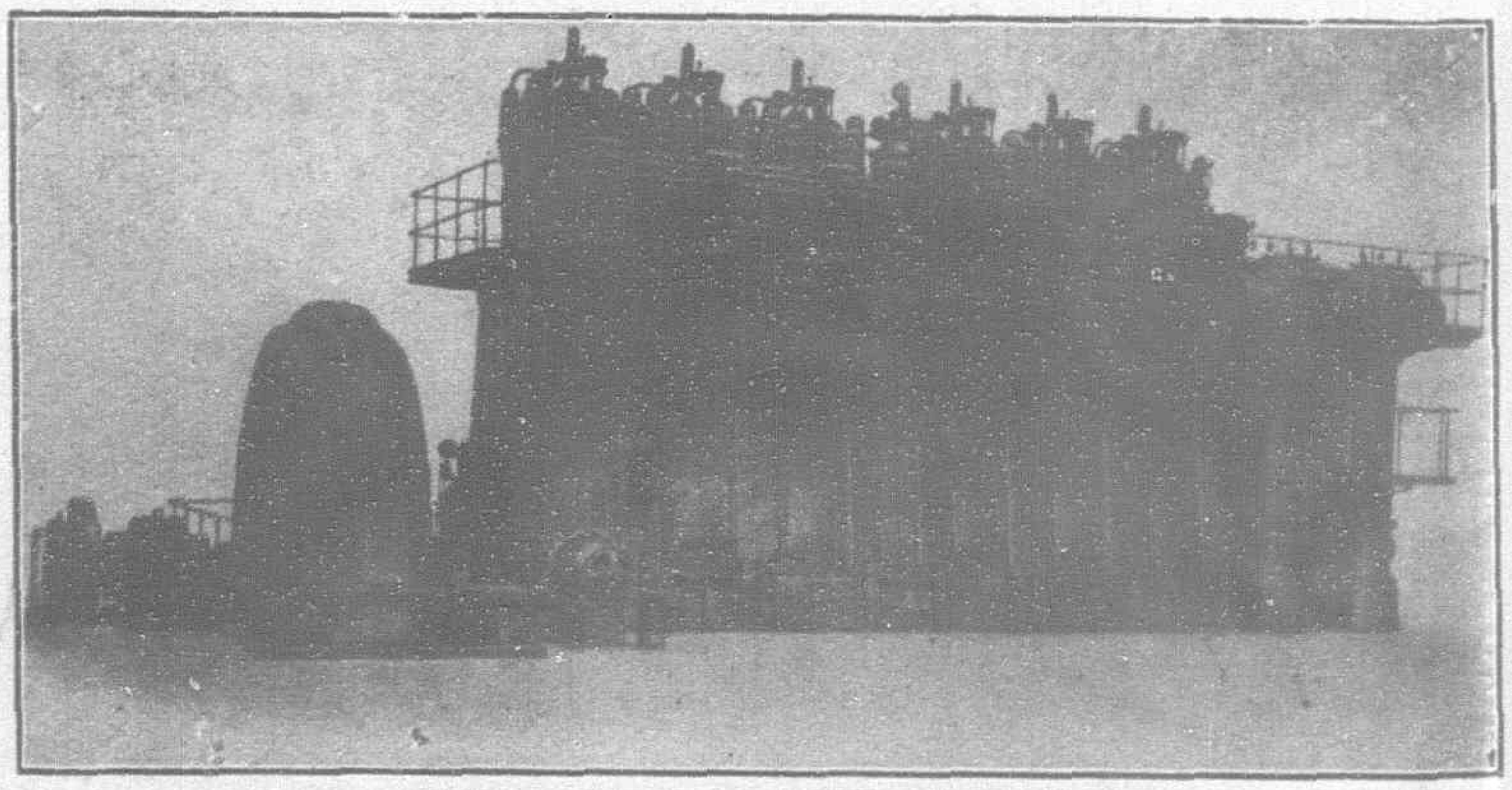


Boiler of the "Hsin Yangtze

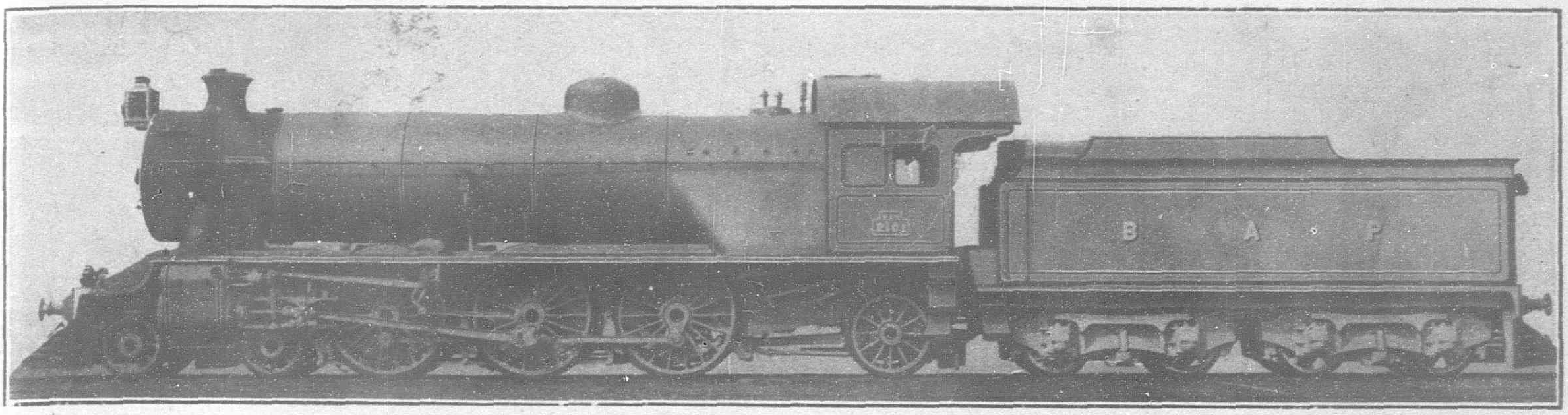
The principal dimensions of the vessel are as follows, viz :—Length overall, 190-ft. 0-in.; length between perpendiculars, 180-ft. 0-in.; breadth moulded, 34-ft. 0-in.; depth moulded to main deck, 16-ft. 6-in. The *Hsin Yangtze*, which has been constructed under Lloyd's special survey to Class 100 A.I. is built of steel with straight stem and elliptical stern, and the hull is divided longitudinally by five watertight bulkheads forming fore peak, fore hold, bunker space, engine and boiler space, after hold and after peak. There are four decks; lower, main, upper and boat decks. On the lower deck forward are four single berth state rooms forward and on the main deck fourteen single berth state rooms for the Pilots' accommodation, making twenty state rooms in all; and all fitted out in the most up to date and modern manner. On the upper deck there is a large and luxuriously fitted saloon forward and a well appointed smoke room aft also the wireless room and accommodation for the wireless operator. On the lower deck aft accommodation is arranged for the native crew, forward of which is a large cold storage compartment extending the full width of the ship, while on the main deck aft accommodation is arranged for the engineers, boys and stewards, also a fully equipped workshop and an additional small service cold storage chamber. The propelling machinery consists of one set of triple expansion surface condensing engines, steam being generated in two large cylindrical multitubular boilers constructed to Lloyd's requirements for a working pressure of 180-lbs. per square inch. The auxiliary machinery includes a Drysdale's independent centrifugal circulating pump; Weir's Monotype air pump; Weir's direct acting feed pumps; Weir's direct contact feed water heater; feed water filter; Mumford's general service, bilge, ballast, sanitary and fresh water pumps; Clarke Chapman steam windless; powerful steam capstan by Robert Rodger & Co.; Hastie's steam and hand steering gear; and also auxiliary condensing plant for use when vessel is at her station, and large refrigerating plant by Messrs. J. E. Hall of Dartford. Electric light is fitted throughout the vessel, current being generated by two deplicate dynamos coupled to Sissons enclosed compound steam engines, while a powerful searchlight is fitted arranged to operate from the wheelhouse. In addition to the usual lifeboats there are also two teakwood motor boarding boats of special design.

Diesel Engine Power Station on the Island of Billiton, Dutch East Indies

The Billiton Maatschappij, The Hague, has placed an order with Sulzer Brothers for two 2,250-b.h.p. two-cycle engines. The engines are constructed to give an output of 2100-b.h.p. in the tropics when running at 150 revs. per min. and will be installed in the same station as a 1,400-b.h.p. Sulzer Diesel engine and eight older Diesel engines of other makes. The power station supplies electric energy for the Company's tin mines on the Island of Billiton and was from the start equipped with oil engines, since a cheap supply of fuel from the neighboring island of Borneo can always be relied on. The Sulzer engine previously supplied has been continuously at work day and night for months on end without giving the slightest trouble.



3,000 H.P. Sulzer Diesel Engine



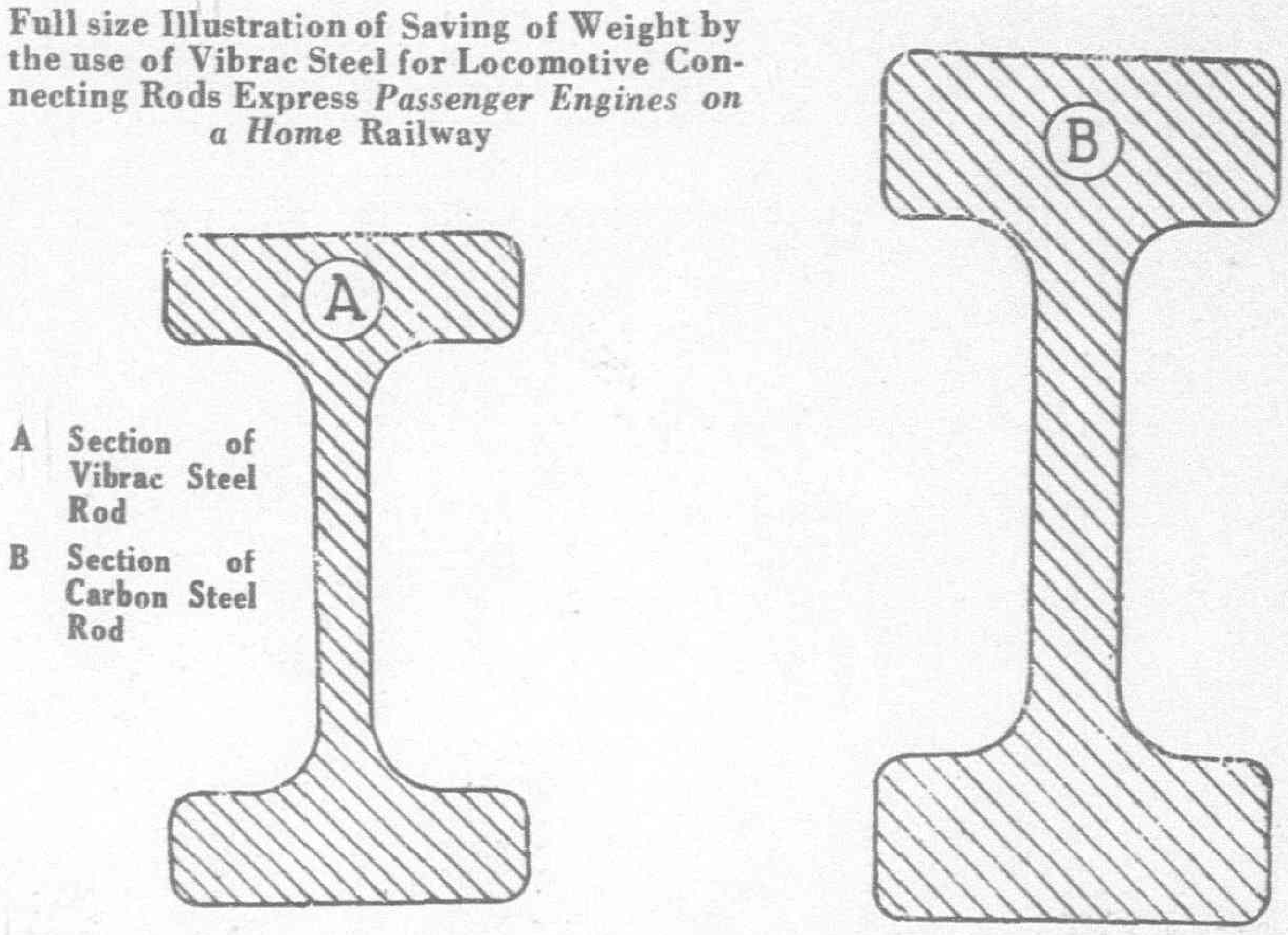
New Type Loco made for Buenos Aires Pacific Railway for Main Line Traffic—Made by Armstrong Whitworth & Co., and all moving parts of "Vibrac" Steel, thereby reducing the weights of such parts by over 25%

The New "Vibrac" Steel

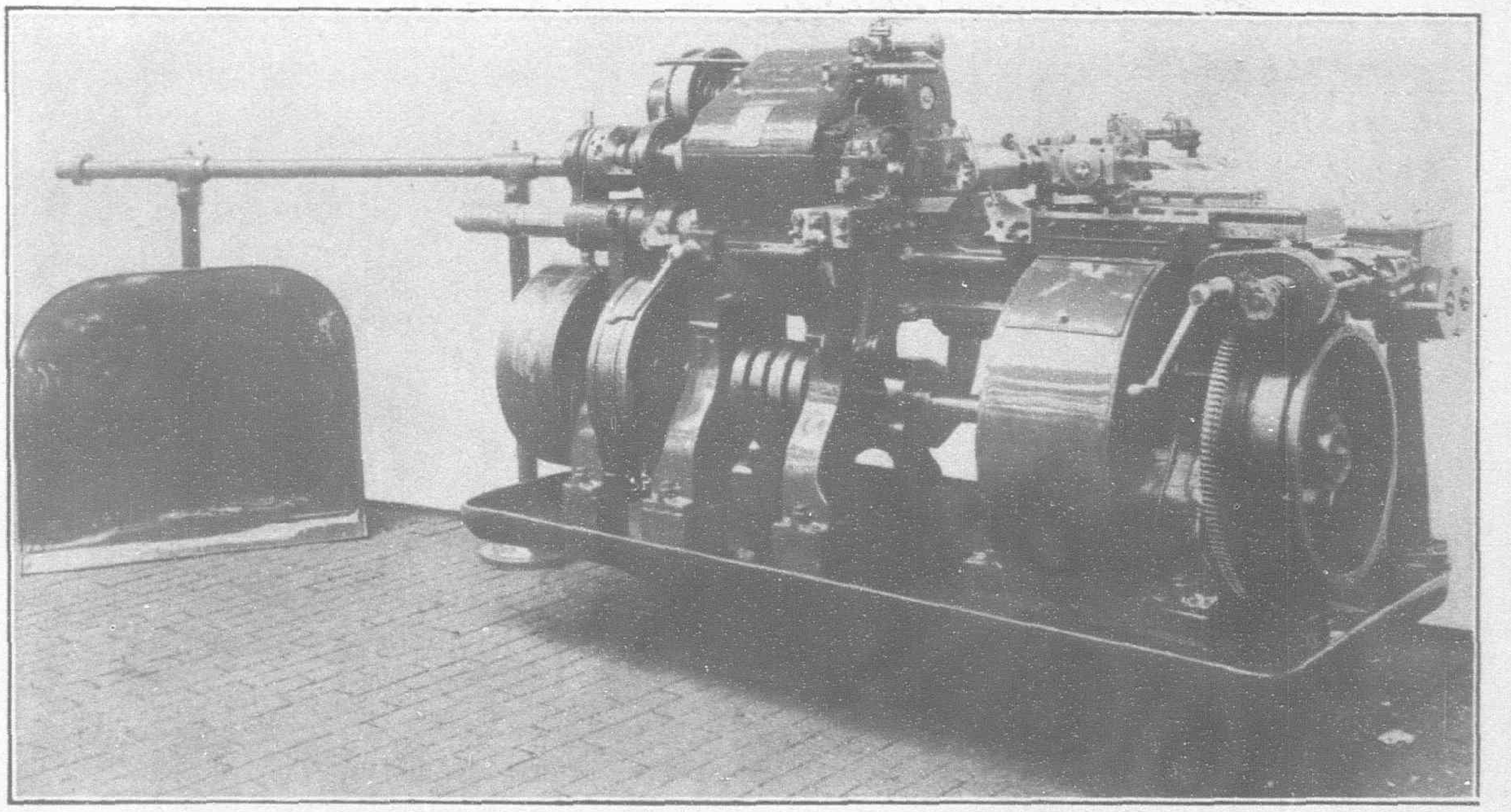
THIS new steel for high class work, and which has been originated and developed by the Armstrong Whitworth Company at their steel works in England, contains a great deal of interest to engineers and all users of good steels.

Armstrong Whitworth, with others, recognized that Nickel Chrome steels had their limitations, due largely to the fact that they were very susceptible to "Temper Brittleness," *i.e.* easily fractured under shock stresses.

Full size Illustration of Saving of Weight by the use of Vibrac Steel for Locomotive Connecting Rods Express *Passenger Engines on a Home* Railway



After long experiments it was found that the only practical means of entirely eliminating this trouble, was by a selective addition of Molybdenum to the Nickel Chrome Alloy Steel. This addition also has the effect of increasing the tensile strength and toughness. This has made it possible to employ this new "Vibrac" steel at a much higher tensile strength for which other Alloy Steels would be quite unsafe. Again Nickel Chrome Steel must be water quenched from the Tempering heat (about 110°F.) to avoid Temper Brittleness. This has the objectionable feature of introducing internal stresses, particularly in portions of sudden change of section and at marked angles, also during subsequent machine operations, distortion invariably takes place, due to this cause.



Sir W. G. Armstrong Whitworth & Co., Ltd.

1½ inch Small piece Automatic Screw Machine. With this machine setting up or changing over from one job to another takes very little longer than with a capstan lathe, whilst it is practically the only machine of its size which has an all geared headstock and single pulley drive and which is provided with three automatically selectable spindle speeds and reverse speeds when required.

"Vibrac" Steel in addition to giving superior results, is claimed to be entirely free from these undesirable features and it is interesting to note the following points put forward by the makers of this tew Steel:—

(1) "Vibrac" being free from Temper Brittleness, possesses a good impact value, whether cooled quickly or slowly after tempering.

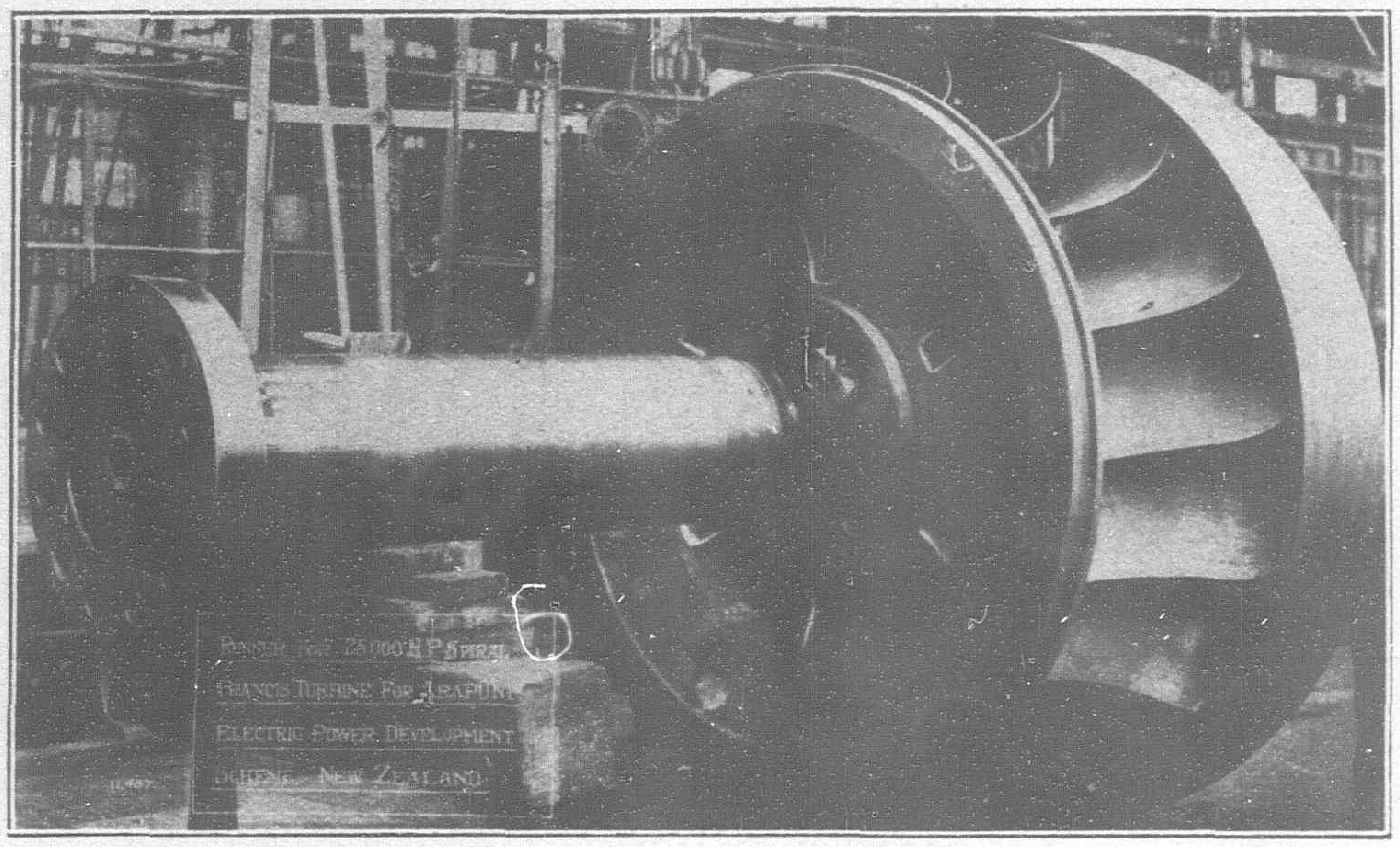
(2) With "Vibrac," the yield to break ratio is extremely high, for instance steel treated to give a tensile strength of 70 tons will not stretch permanently until the actual strees applied is over 60 tons.

(3) "Vibrac" is not so susceptible to mass effect as other steels, so that large or small bulks

can be treated to give the same results, from this it can be seen that the mechanical properties of "Vibrac" steel in the interior, say, of a locomotive axle, will be the same as on the surface.

(4) "Vibrac" can be treated to give very high breaking strength and yet retain proportionally great toughness, a test piece from material treated to over 100 tons tensile bend over an angle of 180 degrees.

(5) "Vibrac" steel only needs to be air cooled and tempered, where other steels must be quenched in some liquid to will obtain good results.


RUNNER FOR 25000 H.P. SPIRAL
FRANCIS TURBINE FOR ARAPUNI
ELECTRIC POWER DEVELOPMENT
SCHEME NEW ZEALAND
6

Messrs. Sir W. G. Armstrong Whitworth & Co., Ltd.

One of three runners for the turbine of the Arapuni (New Zealand) Hydro-Electric Plant. These runners are of the Francis type and develop 25,000 b.h.p. under a nett head of 172 feet, running at 214 r.p.m.

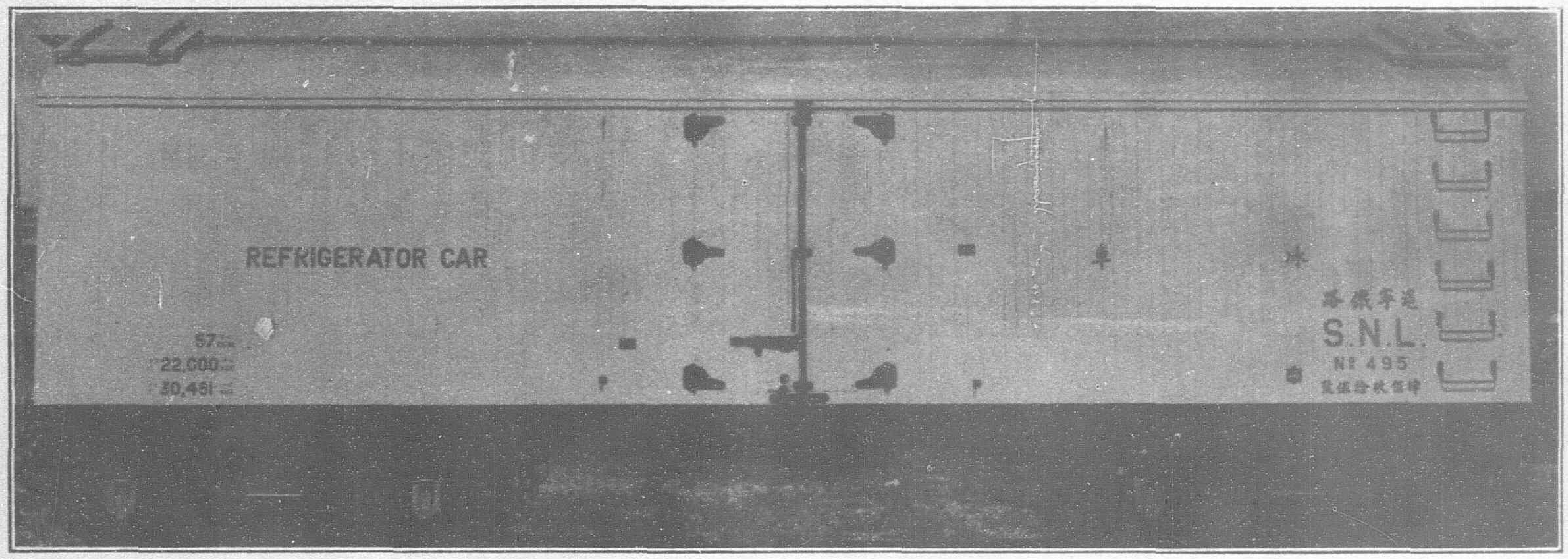
The runner has a diameter of 8 feet at the throat and is built up of ⅝ inch plate steel buckets forged between dies in a hydraulic press. The finished weight of each runner is 10½ tons and a best efficiency of 91% has been guaranteed of these runners by the makers.

(6) "Vibrac" will machine with the same facility when hardened to 70 tons as ordinary Nickel Chrome Steel will at 60 tons.

(7) "Vibrac" undergoes a minimum of distortion on hardening.

(8) "Vibrac" whilst infinitely superior to any Nickel Chrome Steel can be marketed at the price of the usual high grade alloy steels.

We understand that this new steel already has a wide vogue amongst Locomotive manufacturers, automobile makers, etc., for highly and intermittently stressed parts.



Refrigerator Car on The Shanghai-Nanking Line

Refrigeration Car Service on the Chinese Government Railways

THE twenty-one refrigerator cars ordered by the Ministry of Communications in the middle of 1925 from the Ateliers Metallurgiques de Nivelles, Belgium, through the Societe Belge d'Enterprise en Chine, S.A., have recently been delivered and will shortly be put into operation.

The cars have been allotted to the Peking-Mukden (4), Tientsin-Pukow (9), Shanghai-Nanking (5) and Shanghai-Hangchow-Ningpo (3) Railways. They are intended for the carriage of fresh fruits, fish, meat, and vegetables, a considerable demand for which exists in the cities of Peking, Tientsin, Tsinanfu, Tsingtao, Nanking and Shanghai. At the outset it is intended to operate a daily service between Peking and Shanghai, local services being arranged as required.

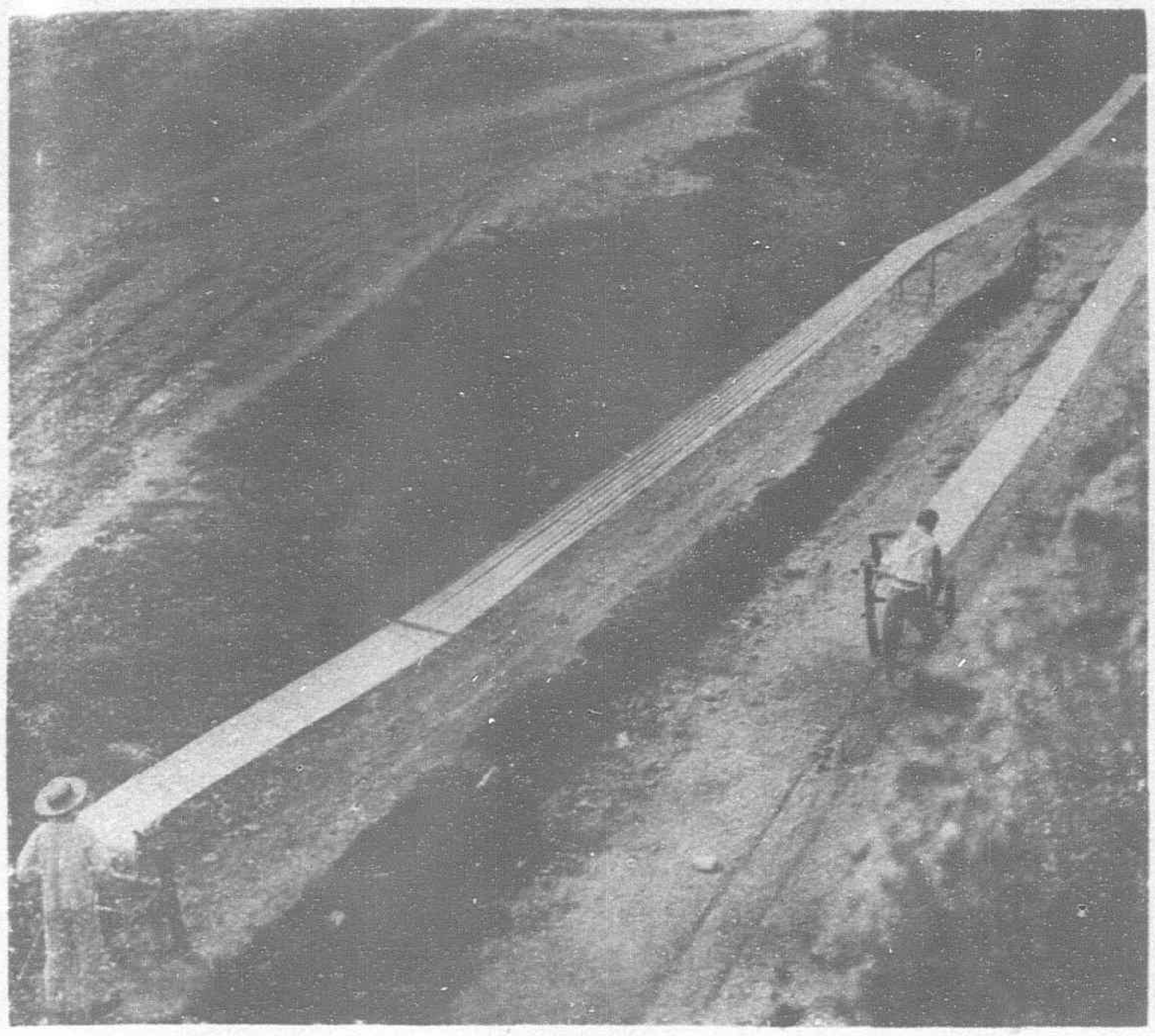
The cars have a capacity of 22 metric tons each with a tare weight of 30 tonnes. The interior is divided into two separate compartments which will permit of different temperatures being maintained and the simultaneous movement of such commodities as fish and fruit.

The underframes are those of a standard Chinese 40 ton wagon resting on passenger bogies. Westinghouse Air Brakes and Automatic Couplers have been applied which will enable the cars to run in passenger trains.

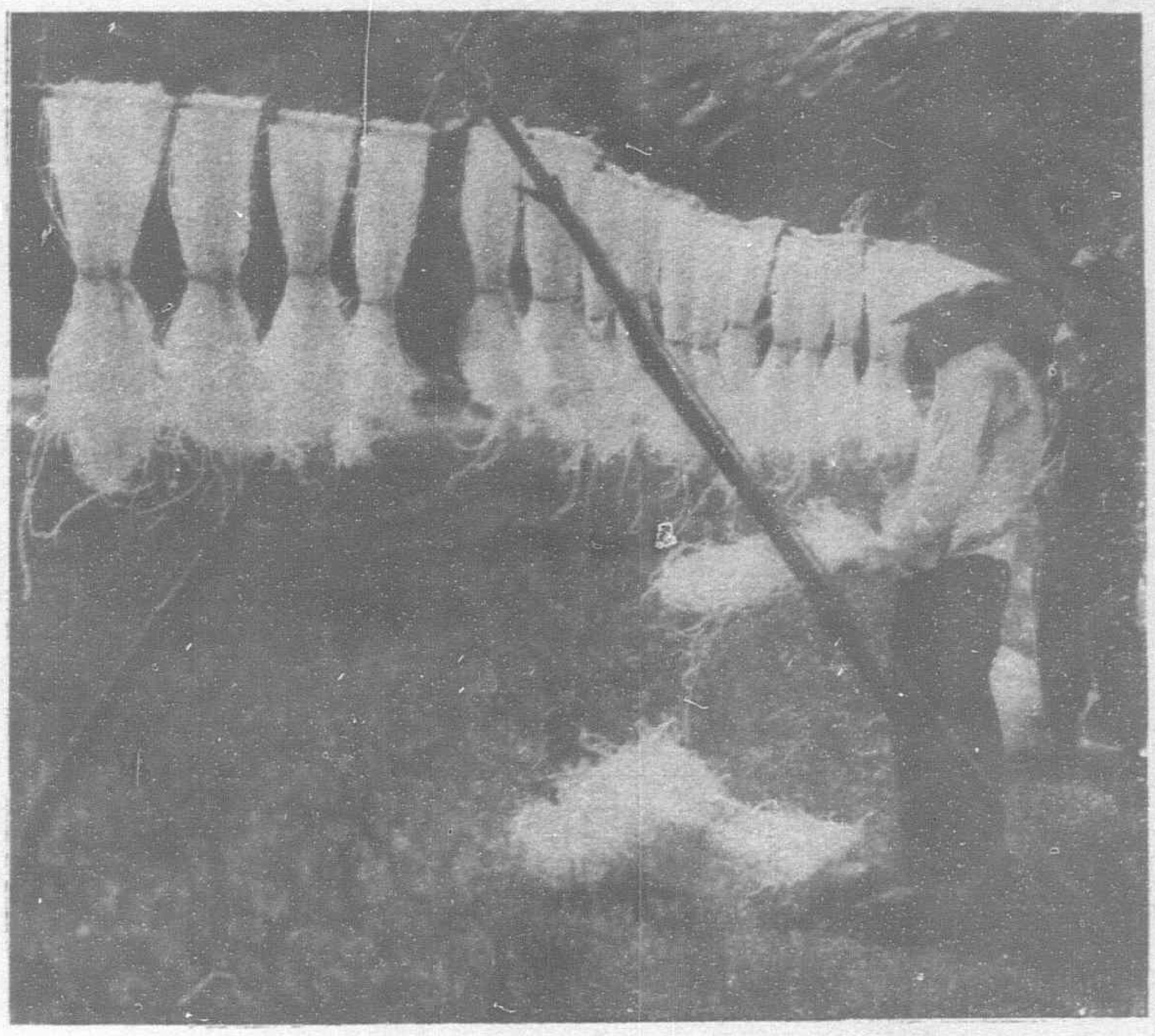
For icing purposes two bunkers have been provided, one at each end of the car, holding 1 and 2 tonnes of ice respectively. Access to the bunkers is gained by insulated roof hatches so that ice may be replenished without opening the car.

Below are given some of the more important dimensions :—

	metres
Length between pulling faces of couplers ..	13.452
Length over striking castings	12.742
Length of underframes	12.500
Length over end posts	12.000
Length inside	11.700
Length between bulkheads	9.600
Length short compartment	3.800
Length long compartment	5.700
Width over body	3.050
Width inside..	2.750
Width over underframe	2.870
Height from rail to top of underframe	1.273
Height from rail to top of floor	1.473
Height from rail to eaves	3.580
Height from rail to top of roof	4.320
Height from rail over running board	4.380
Height of coupler center to rail	1.092
Center to center of trucks	8.300



Using the Open Highways to Spin the Flax



Flax is Becoming a Staple of Manchuria

Manchurian Flax

FLAX cultivation in Manchuria was commenced in 1922 and has been seriously taken up by Chinese cultivators. Owing to the fact that until now there has been a great lack of necessary machinery, everything has been accomplished by hand, and this has resulted in a higher figure being paid per desiatin, viz. $20, whereas with adequate machinery this sowing cost could be appreciably reduced.

Mr. Dimitriev, instructor in flax cultivation for the land department of the Chinese Eastern Railway, has given out some interesting notes regarding the crop for this year. According to him, it will be the largest since the first experiment with flax was made in 1922. For next spring, flax cultivators will sow some 20,000 poods of seeds.

The area under flax cultivation at present is 450 desiatins of which 300 desiatins have been sown by General Ma, together with other important Chinese officials. Mr. L. Gondatti and Chinese merchants have sown some 50 desiatins.

The want of necessary machinery at present makes the cost of sowing dearer than it should be, as already stated, but with the arrival from England of tractors, etc., already ordered this will be greatly reduced.

The heavy rainfall this year has caused the flax to grow very high and this is one cause of this year's successful crop.

It might be stated here that in 1925 samples of Manchurian flax were sent to Belgian flax spinners who found the quality to be second to none. A group of Chinese merchants have carefully gone over the ground and they now propose to build a flax spinning mill on the banks of the Sungari, opposite Harbin.

It will thus be seen that a great new industry is on the eve of maturity, adding to the riches of this territory.

Ship Sales at Hongkong

TWO of the vessels which have been laid up in Hongkong over a very long period, were put up for sale on November 1 and both were knocked down at low figures. These vessels were the *Ling Nam*, which was put up at Messrs. Lammert's sale rooms and went under the hammer for $150,000, considerably less than the reserve price at which she was withdrawn at a previous sale, and the *General H. Knox*, which cost the purchaser a mere $12,000, at the China Auction Rooms. The *Ling Nam* was sold at noon and there was a large attendance, most of whom appeared to be interested parties having wage and other claims on the vessel. She was sold as at present lying off Shumshuipo, with all equipment, fittings and furniture, including silver and linen, and it is understood she is insured for £50,000. The ship is a Chinese ship registered at Canton, of 6,218 tons gross and of 3,748 nett tonnage. She has accommodation for 40 first class passengers, 80 second class passengers and 1,080 deck passengers and is fitted with electric light, built by Reihersteig Shwiffswerte and Machinenfabrik of Hamburg in 1903. Length 415.7 feet, breath 50.4 feet, depth 28.1 feet, average speed loaded 12 knots. The ship is fitted with twin screw triple expansion surface condensing 577 (nominal) H. P. engines, wireless and refrigerating apparatus and is classed 100 A. 1 in Lloyd's Register of Shipping and passed second No. 3 Special Survey in November 1922. The opening price was $100,000 with bids of $1,000 acceptable and after a few slow raises at this figure, the price began to jump by double and quadruple the minimum. There was no pause until $150,000 was reached, this apparently being a general appraisement of the vessel's worth in the present state of the market and the lot was knocked down to Messrs. Jose Moreno Brodeth.

The sale of the *General H. Knox* in the afternoon also attracted a fair number of prospective purchasers and bidding was brisk throughout, the opening price being tripled before ithe sale was completed. The *General H. Knox* is a steel screw vessel, fitted with compound engines, 16 by 32 and double boilers, giving her a registered speed of 11 knots. She was formerly a unit of the United States Army Transport Service and was later employed as a mine layer. Her dimensions are length 150 feet, beam 30 feet and depth 13 feet with a gross tonnage of 447, sold as now lying off Shumshuipo, with all fittings including a searchlight. Mortgage and interest amounted to approximately $5,000. The opening price was the incredibly low figure of $4,000, with bids of $200 acceptable. Most bids were made at the minimum but there were occasional breaks of $800, $600 and $400, with calls overlapping in many places at once. At $11,000 bidding slowed up, but the final figure of $12,000 was reached in less than 10 minutes from the opening, the buyer being Whampoa Sam, bumboatman and licensed pilot, of 120 Praya East, Hongkong.

Engineering Notes

S-168 Centrifugal Pumps is Sugar Factories.—This autumn we have again received an order from AKIZ, Amsterdam, for about 30 special pumps for sugar factories to be ready for the next crop in the Dutch East Indies. Also in France our pumps have proved suitable for this class of work and it would appear that the reciprocating pumps hitherto employed will be gradually superseded by our special pumps. The pumps for handling the sugar juice, raw and clarified, are made entirely of bronze and have, as a rule the impeller open on both sides and fitted overhung on the shaft.

It is to be hoped that these pumps will be adopted in other countries to the same extent as in the Dutch East Indies.

Soochow Electric Company.—Since the amalgamation of the Chenghsin Electric Light Co., with the Soochow Electric Co., the new company has moved the entire plant to the former premises of the Soochow Copper Mint located at Chao Shih Chieh, outside the city. The factory building of the Chenghsin Co., is now vacant. The new company has its administration office at Chiu Sheng Hsiang city. The company is capitalised at $2,200,000, fully paid up. The manager is Chow Yang-san. The plant has alternating current, three phase, four wires. The high tension is 2,300 volts and the low tension is 200 volts and 400 volts. The generator is steam-turbine. The company now supplies approximately 100,000 electric lamps to consumers in Soochow. The charge is 20 silver cents per kilowatt hour. The charge without electric meter is $1.20 per month for a lamp of 16 c.p. The bulk supply is charged 10 silver cents per unit. Formerly, electricity was only available in the evening; but in August this year it was supplied in the daytime as well.

Sin Hwa Cigarette Factory, Hankow.—The Sin Hwa Cigarette Factory was founded by Chen Wen-an in Hankow in 1925. The factory is located at Hsitze Kai and is equipped with two machines for manufacturing cigarettes. It employs 40 male and 120 female workers. The daily output of the factory, working day and night, is eight cases, each containing 200 packages of 25 small boxes each. The factory has two trade marks, "Train" and "Warship". The Sin Hwa, Cigarette Factory uses tobacco leaves produced at Hsuchow Kiangsu province, and occasionally American tobacco instead of Hupeh and Honan products, which are of inferior quality. Alcohol and banana extract instead of morphine are used in the manufacture of cigarettes. The sales department of the factory sells goods by wholesale and retail and is doing good business.

The workmen are paid by the month, each earning from $10 to $18, while the women workers are paid at piece rates, 10 cash for packing one package of cigarettes and five cash for making one small package. A skilled woman worker can earn from several hundred to over one thousand cash a day. In manufacturing cigarettes the tobacco leaves are first cut into narrow pieces and then steamed. They are wrapped with paper into long pieces and cut into short pieces in the form of cigarettes. Wrapping, cutting, pasting and stamping are all done by machinery. When the cigarettes are made they are backed in the baking room before packing.

The daily consumption of cigarettes at Hankow is about twenty cases, valued at $4,000 80 per cent of the cigarettes consumed at Hankow, however, are foreign.

Candle Factories in Harbin.—Sixteen stearine candle factories are operating in Harbin, with a total daily output of 14,800 catties of candles. All these factories work on a more or less limited scale, the Feng Shun being the largest. The daily output of the others is limited to a few hundred or a little over a thousand catties. These small factories are run with very limited capital, some (like the Ho Kee) hardly exceeding $2,000. Stearine candles are growing in popularity among the people of North Manchuria. It is estimated that $600,000 worth of candles are consumed yearly. In addition, the local market still imports over $100,000 worth of candles every year from Japan and England.

State of Trade at the Imperial Steel Works.—During October, business at the Imperial Steel Works was naturally affected to some extent by the continued difficulties in obtaining fuel. Nevertheless, all the departments were kept open, and ran, if not for the full week in every case, for the best part of it in almost all cases, no department being completely shut down.

The Small Tools Department received some important orders from over seas for carbon steel chasers and boiler stay taps, trade in this department being good.

The Tool Steel Department have in hand some fair sized orders for Hollow Drill Steel and Stainless Steel.

The Forging Press has been actively engaged during the month on forging manganese steel, chrome vanadium steel, stainless steel, and nickel chrome steel, trade in this department being fair.

The Saw Department has been actively occupied in the production of granite saws and cutters. Manufacture of circular steel saws of the larger sizes has been affected by the difficulty of getting plates rolled.

The Engineering and Foundry Departments recently received an important visit from members of the Quarry Managers' Institute, and were able to show manganese steel jaws and other crushing and grinding machinery castings, in process of manufacture, as well as a large number of grinding and crushing machines and kilns constructed and in course of construction for cement plants, and an experimental rotary kiln for lime burning.

The File, Railway, and Tramway Departments have been less active owing to the coal stoppage.

Electrical Development.—*Commerce Reports* states that the construction of the 30,000 k.w. sub-station of the Toho Electric Power Co., at Nishi Biwajima, a suburb of Nagoya, is proceeding rapidly. There will be four transformers, each of 7,500-k.w. capacity. Part of the machinery has already been installed and the plant will be completed before 1927. This station will receive power supplied by the Daido, Ibi, Nagaragawa, and Nohi Electric Power Companies, and by the Hayakawa Water Power Co., for distribution to other sub-stations in the city.

China Industrial Elements Manufacturers.—The China Industrial Elements Manufacturers has opened a sales office at 340 Feng Chi Li, Nanking Road, Shanghai. Its factory is located at 191 Jukong Road, Shanghai. The company was organized in October, 1925. It employes about 20 workmen for the manufacture of a number of chemicals, such as ether, solution of ammonia, sulphates, carbonates, etc. It also manufactures gum cotton. Its products are exported largely to Tientsin, Mukden, Shantung, Chekiang, and other parts of Kiangsu. It is jointly managed by the two partners, M. S. Woo and Y. S. Chen.

Union Iron Works, Shanghai.—The Union Iron Works, recently succeeded in manufacturing a new kind of machine for calendering cloth, which is said to produce a better glazing effect than other machines. The company has two departments, located at B. 1249 and 642 Dixwell Road, Shanghai. The company is capitalized at $500,000, and the owner Chung Hsueh-chun. The factory employes about 100 workmen who are engaged in the manufacture of machines, such as motors and dynamos, yarn preparing machines, calenders, hydro-extractors, washing and dyeing machines, and pumps.

Largest Japanese Cement Factory in China.—The Konoda Cement Factory, Chowshuitze, Leased Territory of Kwantung, is a Japanese plant, established 16 years ago. At that time there was an annual consumption in Manchuria of 250,000 and 300,000 barrels. Now it is over 400,000. To meet the growing demand, the Konoda factory was enlarged in September, 1923, to turn out 650,000 barrels of cement every year. The product of this factory is more than sufficient to supply the local demand, and a quantity is therefore exported to Tsingtao, Shanghai, Chefoo, Hankow, Hongkong, Canton and other places in Kwangtung province.

Japan's Post-Earthquake Electrical Trade.—After a considerable delay due to the earthquake and fire, the Japanese Government has resumed publication of its annual detailed statistics of foreign trade. It has just issued a volume which includes particulars of imports and exports by countries in 1924, together with such figures as could be given relating to 1922 and 1923. With these two years no useful comparison can be made, as many of the records at Yokohama and elsewhere were destroyed. Considerable interest, however, attaches to the statement regarding the foreign trade in electrical material in 1921 and 1924, which is printed on another page. Both imports and exports show the effects of the great disaster, the former by their large increases under nearly every heading, and the latter by the fact that the decline in oversea sales, which had set in before the earthquake, became very marked. With regard to 1925, for which a few totals are available, it is noteworthy that on the export side the falling-off has been checked, whilst amongst imports there have been increases in telephone instruments and many of the less important items, but decreases in heavy plant.

New Factories Established at Hangchow in 1926.—With the rapid development of modern industries in Chekiang province during recent years, the number of factories in Hangchow, the provincial capital, is steadily growing. The following list shows the new additions in 1926 :

(1) King Cheng Silk Filature, at the King Cheng Silk Weaving Factory, at Puankai, started operations in May with over forty Japanese-styled reeling machines.

(2) Chekiang Metal Reeds Factory (see Industrial Notes, Bulletin Vol. IX, No. 297).

(3) Ta Tung Ironworks (see Industrial Notes, Bulletin Vol. IX, No. 297).

(4) Hu Lin Ironworks (see Industrial Notes, Bulletin Vol. IX, No. 297.

(5) Ting Sin Ironworks was organised by Yang Kwei-tang in June, located at Tungkai. It manufactures silk weaving machines and other accessories.

(6) King Wei Silk Twisting Factory (see Industrial Notes, Bulletin Vol. IX, No. 299), located at No. 3, Kweihsiang.

(7) Pu Yi Silk Mfg. Co., Ltd., (see Industrial Notes, Bulletin Vol. IX, No. 299) was founded a little earlier than King Wei, with a capital of $50,000 located at Yangshihkai.

(8) Chu Lun Silk Weaving Factory was organised in the spring of 1926 by Chao Yi-chun, and located at Paitsingerhtow, Hsiacheng. Electric power is used to turn out silk fabrics with modern equipment. The factory has its general sales office at Tsiyili, Nanking Road, Shanghai.

(9) Yu Tai Cotton Weaving Factory was established on September 30 at Tsinghotang for the manufacture of socks, stockings, lace, felt and straw hats, blankets, scarfs and underwears.

(10) Chiu Feng Ribbon Factory, is the fourth of its kind at Hangchow, the first three being Jen Ho, Heng Yi Feng and Ta Lun. It was established by Yang Kwei-tang in August with a capital of $3,000, located at Tungkai.

(11) Sheng Li Hose Factory was founded quite recently by a Shaohing merchant at No. 42, Yingmenkow.

(12) Jih Sin Towel Factory is being organised by Chen Ju-hsien and is located at Chungankiao, Hsiacheng.

(13) Hwei Min Cotton Cloth Weaving Factory was organised by Chu Fu-hai with a capital of $30,000. It is located at Changkingkai, Hsiacheng and equipped with more than three hundred modern looms, partly operated by electric power. Operations began on November 10.

(14) Ta Hsiang Leather Goods Manufactory is the second of its kind at Hangchow, the first being the Wu Lin Li Hing Leather Goods Factory inside Tsingtaimen. Preparations are being made to start operations at Chungankiao Takai.

Road Building in Kiangsu.—The building of automobile roads in north Kiangsu continues, and six large new passenger buses will soon be put in service between Tsingkiangpu and Huaian, and between Tsingkiangpu and Hsipa. The mechanics and chauffeurs are local men, trained in Shanghai. Many of the roads were washed out by the floods this summer, but these are now being repaired rapidly. It is definitely reported that the line will be continued south to Yangchow in the near future.

China Machine Works, Ltd.—The China Machine Works, Ltd., is one of the few companies in China devoted to manufacturing machinery. It has a factory at Wan Tsao Pang, Woosung, and an office at 50 Avenue Edward VII, Shanghai. The company is capitalized at $300,000. It was established in 1921. The factory covers a total area of 40 *mow*, and is divided into seven departments : wood working department, forge, foundry, machine shop, bench work shop, spindle department, and power house. It employ about 300 workmen, and produces different kinds of textile machinery, general machinery, machine tools, brass and iron castings, etc. Weaving machines, silk looms, spindles, bobbin winders, card cutting machines, card shearing machines, jacquards, knotters, bunding machines, folding machines, marking machines, cloth winders, oil press, noodle machines, hank reels are among its other products. Its manager is C. G. Lo.

Umbrella Manufacture in Shanghai.—Owing to the growth of business, Sin Dah Loh & Co., Ltd., manufacturers of umbrellas has moved its sales office to 51 King Loong Ka, Shanghai. The company is capitalized at $100,000, half of which has been subscribed. It was first roganized at 19 Lin Yin Road. West Gate, Shanghai, in August, 1924. It has now a factory at 112-6 Moulmein Road, Shanghai, which employs 240 man workers and 80 woman workers and turns out 300 dozen umbrellas daily. The factory is divided into 7 departments : the bone department, the handle department, the cutting department, the brassware department, the framework department, the sewing department, and the covering department. The factory has 12 sets of sewing machines, 2 sets of handle manufacturing machines, and 8 sets of machines for the manufacture of brassware. The steel for framework and the cloth and silk umbrella coverings are imported, and the material for handles comes from Wenchow and Ningpo. The manager of the company is Fan Mao-fa. Men's umbrellas are sold from Tls. 8.50 to Tls. 56.00 per dozen and ladies' umbrellas from Tls. 56.00 to Tls. 60.00 per dozen. The company's trade marks is " Five " (X).

Rubber Manufacturing Company in Shanghai.—A branch of The Cantonese Bros., Rubber Manufacturing Company was recently opened at 346 Tiendong Road, Shanghai. The company is capitalised at $200,000. It has two factories, one in Canton, and the other in Hongkong, which together employ 234 workers in manufacturing rubber heels and soles for both foreign and Chinese footwear. The head office is at 18-20, Ho Nan Nao Chou Ta Chia, Canton, and its first branch office at 123-131 Nanchang Chia, Shen Shui Pu, Hongkong. Teng Feng-ch'ih is the general manager and Kuan Jui-fu, the manager of the Shanghai office.

Shanghai Waterworks Co., Ltd.—The Shanghai Waterworks Co., Ltd., 69 Kiangse Road, Shanghai, decided on September 30, 1926, to offer to its existing shareholders 167,650 " B " shares of £1 each at par in the proportion of 5 " B " shares to 1 existing share. The shares are to be paid for in three instalments : 50 per cent. on acceptance of offer, the other 50 per cent. in two quarterly instalments. Dividends on these " B " shares will be derived from profits arising from intra-agreement consumers and the maximum dividend will be set at 7 per cent. per annum. In case these profits should be insufficient to pay this dividend, the deficiency is to be made up and paid out of the net profits of any succeeding year. These shares will also participate in any extra dividend or bonus from the profits arising out of the supply of water to shipping consumers and half of the profits arising out of the supply to extra-agreement consumers. Dividend, however, will not be declared on these shares till January 1, 1927, and the shares will therefore not be entitled to any dividend whether interim or otherwise already declared or to be declared in respect of the year 1926. Regardless of the difference in the maximum rates of dividend, the " B " shares will rank equally with the " A " shares in the capital of the company. The offer will be withdrawn on December 20, 1926.

Waterworks at Kaifeng.—A Chekiang merchant, Wang Kai-fang is organising the Yu Yuan Waterworks at Kaifeng, capital of Honan province, with a preliminary capital of $100,000. The promoter plans to sink artesian wells instead of getting water from the Yellow River. Machinery has been ordered from a Shanghai firm and construction work will start within the present year.

New Paper Mill Under Organisation at Foochow.—Paper is one of the four principal products of Fukien province, but owing to the crude methods employed in the old-style paper mills, the product is poor in quality. Consequently, Japanese paper has been imported in increasing quantities in recent years. Su Yu-ming, a native of Tingchow, Fukien province, who studied paper manufacturing in France, is now promoting the organisation of a modern paper mill at Foochow, utilizing the raw materials produced in the districts of the upper Min River. His plan has received official support and preparations are being made for the new establishment.

Lieh Ching Hing Tin Canister Works, Shanghai.—The Lieh Ching Hing Tin Canister Works, 186 Alcock Road, Shanghai, moved to its new factory, JN 150 Paoting Road, Shanghai, on November 12. The company has 13 tin manufacturing machines and 16 workers employed in manufacturing tins. The sales office is at the corner of Shantung and Canton Roads, Shanghai. The proprietor is Wu Sing-kwang.

Par Lee Phonograph Co., Shanghai.—The Par Lee Phonograph Co., 435 Foochow Road, Shanghai, was formally opened for business on November 22. It has a factory in Chin Hsing Li, Yung Hsing Road, Chapei, Shanghai, which is engaged in manufacturing the wooden bodies of phonographs and other minor accessories and in repairing gramophones of foreign make. The manager is Chou Ho-ying.

China Ho Shing Tobacco Company.—Two new brands of cigarettes under the names of "Green Trees" and "Bees" are being manufactured by the China Ho Shing Tobacco Company, 1044 Tung An Li, Tongshan Road, Shanghai, and will soon be put on sale. The company was established in October, 1925. and has been engaged in marketing Feng Tieh Cigarettes which are sold at $105 per case containing 50,000 cigarettes.

North China Motor Service.—The North China Long Distance Motor Service, which has its head office at Chaomien Hutung, Tungssupailou, Peking, has a number of Dodge cars which make two round trips every week between Peking anh Jehol and one round trip beween Peking and Hupeikow. Special cars may be chartered by arrangement.

Taonanfu-Tsitsihar Railway.—A Reuter message from Dairen reports the completion to anganchi of the Taonanfu-Tsitsihar Railway, the contract for which was held by the South Manchuria Railway Company. The contractors are ready to transfer the enterprise to the Chinese owners. The contract for construction was closed for Y.12,920,000, providing for the payment of this amount within six months of Chinese assumption of control. In the event of non-compliance with this condition, the amount is to be converted into a loan on which interest at the rate of 9 per cent., is to be paid, repayment to be exacted within forty years, and amortization to begin at the end of thirty years. To reach its destination the new line has to cross the Chinese Eastern Railway. This has not yet been done because of diplomatic complications, Reuter remarks "it is thought in Dairen that there may be much discussion before this is allowed."

Five Railways Planned in Kirin.—Plans for the construction of five railways in Kirin province are being made by the Kirin gentry, as follows:

Chang Fu line—from Changchun to Fuyu—95 kilometers.
Ki Pan line—from Kirin to Panshih—60 kilometers.
Shih Yu line—from Shihtaochengtse to Yushu—130 kilometers.
Fushih line—from Fuyu to Shihtaochengtse—66 kilometers.
Ning Ta line—from Ninghai to Ningkuta—40 kilometers.

Manufactures in Manchurian Trade.—It may be interesting to see what position manufacturing industries occupy in South Manchuria in relation to general industries. With this in view, the following data were obtained in order to show the percentage of manufactured articles exported from Dairen, Autung, and Yingkow to the total amount of export trade done at the three ports in South Manchuria in the last six years, the units of the figures being one thousand HK. Taels:

Year	Total Amount of Exports	Mftd. Goods	Percentage
1920	173,043	79,041	45%
1921	181,113	90,713	50%
1922	207,267	91,821	44%
1923	234,732	107,843	46%
1924	203,387	92,366	44%
1925	247,303	97,367	39%

In the list of manufactured goods are included spirits, tobacco, beverages and comestibles, bean-cake, bean-oil, ramie, tussah-silk, waste silk, silk goods, paints, dyes, iron and ironware, metal goods, etc., the remainder of articles exported being made up of farm products. The ratio of manufactured goods shipped abroad to the total of exportation made from South Manchuria reached the maximum in 1921, but since then it gradually declined with the exception of 1923.

At a glance South Manchuria may look as though it is a great manufacturing country, because in 1925 when the shipment of manufactured articles was at the lowest ebb, the percentage still stood at 39 per cent. But then it must be borne in mind that in the articles turned out are included semi-manufactured articles such as bean-cake and bean-oil, which constitute the major portion of the figures tabulated as the amount of manufactured goods, as the table below proves:

Year	Total Mftd. Goods	Bean-Cake & Bean-Oil	Real Mftd. Goods
1920	79,041	67,006	12,035
1921	90,713	69,688	31,025
1922	91,821	72,441	19,380
1923	107,843	81,914	25,929
1924	92,366	74,699	17,667
1925	97,367	77,078	20,289

How insignificant the real manufacturing industry in South Manchuria is can be noted when the attached table is glanced over, in which bean-cake and bean-oil and other semi-manufactured goods are classed as agricultural products:

Year	Real Mftd. Goods	Farm Products	Total
1920	6%	94%	100%
1921	12%	88%	100%
1922	9%	91%	100%
1923	11%	89%	100%
1924	8%	92%	100%
1925	8%	92%	100%

—*North China Standard.*

The Port of Vladivostok

(Continued from page 72.)

As a matter of fact this percentage should be much higher, as the Transit Section both with respect to natural conditions and technical equipment (even disregarding the conveyors) is the best part of the port and its average annual capacity is over 60,000 poods per lineal sajen.

Though the above named figures, extracted from the official records of the Port Administration, give some idea of what the capacity of the port is, it goes without saying that they are only general and approximate.

Summing up all that is said above, we come to the following general conclusion:—the constitution of the port (free port, Transit Grain Exchange, numerous facilities and privileges granted to all concerns and firms engaged in export and import operations), the excellent natural conditions (vast water area, its depth more than sufficient for big ocean steamers with the maximum draught, an extensive inner harbor well protected by surrounding mountains, and easy ingress), and, finally, the up-to-date technical equipment (convenient stone embankment with deep water and modern appliances, conveyors for loading and unloading, big storage capacity of warehouses for storing of commodities, railway sidings, shipyards, docks and repair workshops),—all these prove that the port of Vladivostok is one of the best organized and perfectly convenient commercial ports in the Far East.

Political Troubles and the Maintenance of Trade

(Continued from page 67).

While the force of this boycott and the continuance of the unfortunate situation in South China would seem to indicate an unenviable future for British trade in China, it is impossible to resist the conviction that the present anti-British bias is largely an artifical one, due entirely to the predominant part that Great Britain has hitherto played in foreign relations with China, as a result of which she has momentarily become a convenient whipping-horse in the eyes of the young Chinese nationalist, who is anxious to wipe out with a stroke of the pen all the so-called privileges that the foreigner has acquired by treaty in China. The political situation is at the moment so uncertain that it is impossible to make a forecast of any nation's future trade with this country. Leaving aside the great distributing organisations built up by British firms in this country for the sale of cigarettes, kerosene oil, sugar, chemicals, drugs and similar proprietary articles, which are in many cases not products of the British Empire, the interests of the actual manufacturer of British goods are still very largely bound up with the fortunes of the British merchant in China, on whom the present state of agitation and unrest has told very heavily.

In these circumstances it is essential that the manufacturer, whatever his own peculiar difficulties may be, should bear as large a share of the burdens of the merchant in China, and maintain as close relations with him, as possible. Complaints are still sometimes heard that the British manufacturer is too anxious to sell the Chinese a " better article" than is asked for, that he is too reluctant to bear his share of the cost of technical staffs to help in the development of his interests, that he does not give sufficient assistance in the matter of showrooms, advertisement and propaganda, and finally that he does not place sufficient data at the disposal of his representative, who is constantly obliged to refer to him. There is little doubt that the alleged indifference of the British manufacturer towards the particular needs of the Chinese is not so strong as it was, but neither is his position in this market so secure as it was. A satisfactory outcome for British trade from present difficulties depends not only on a solution of the political problem which will leave the foreign trader free to carry on his business unhampered by boycotts, civil wars, taxation and other unnatural restrictions, but on the willingness of the manufacturer to make every endeavor to suit the requirements of the market and to play his part in developing it.

Railways in Fukien.—In addition to their plan to take over the Changchow-Amoy Railway, a group of wealthy overseas Fukienese headed by Huang Yi-chu are negotiating for rights to build a line between Foochow and Amoy. This enterprise has been attempted on many occasions in the past, but lack of business capacity on the part of the promoters resulted in failure on each occasion. In this case adequate capital is available, as all the promoters are business magnates from Malaysia and have already shown their willingness to invest money in their native province. Many flourishing enterprises have been initiated by them.

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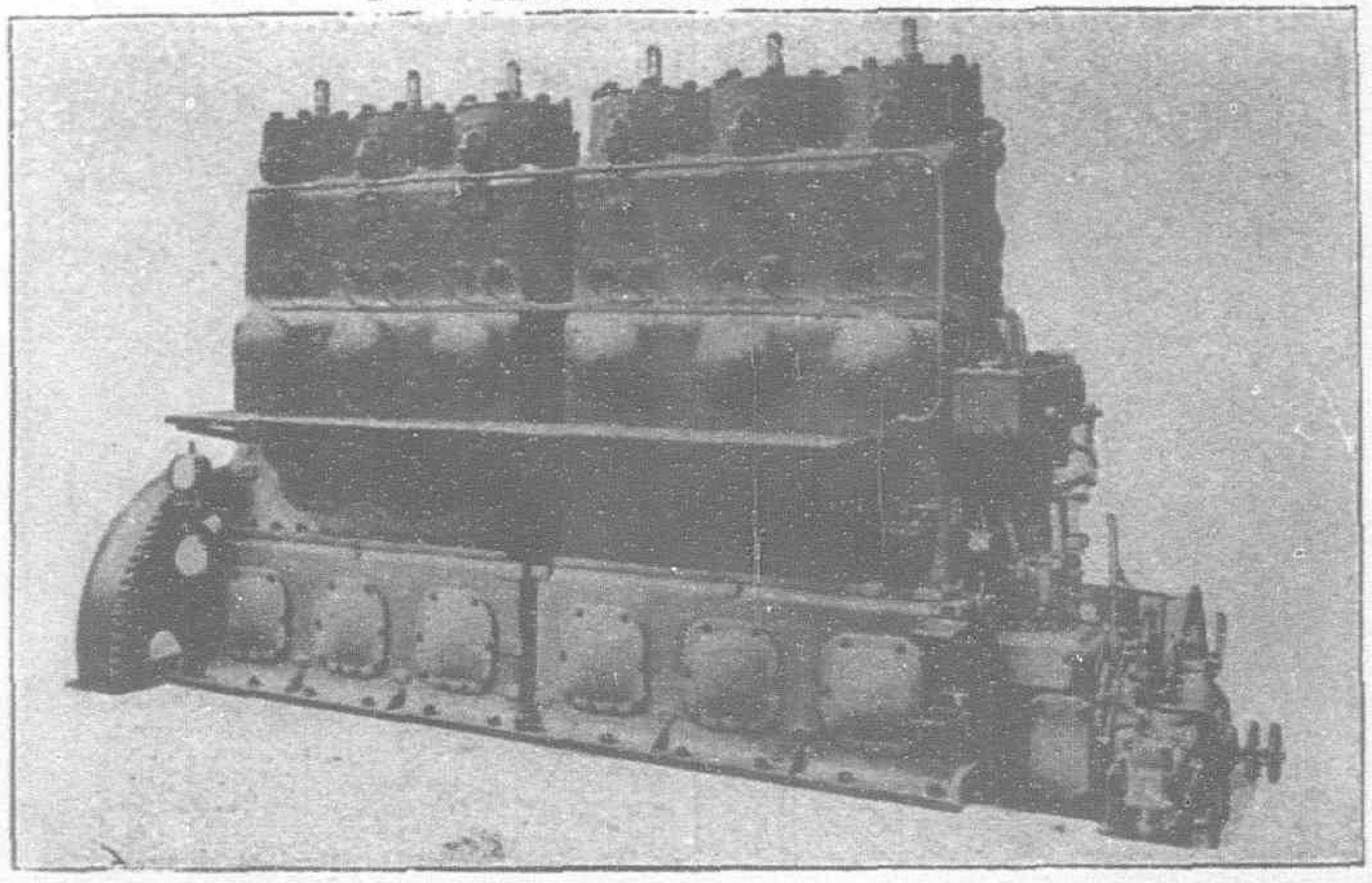

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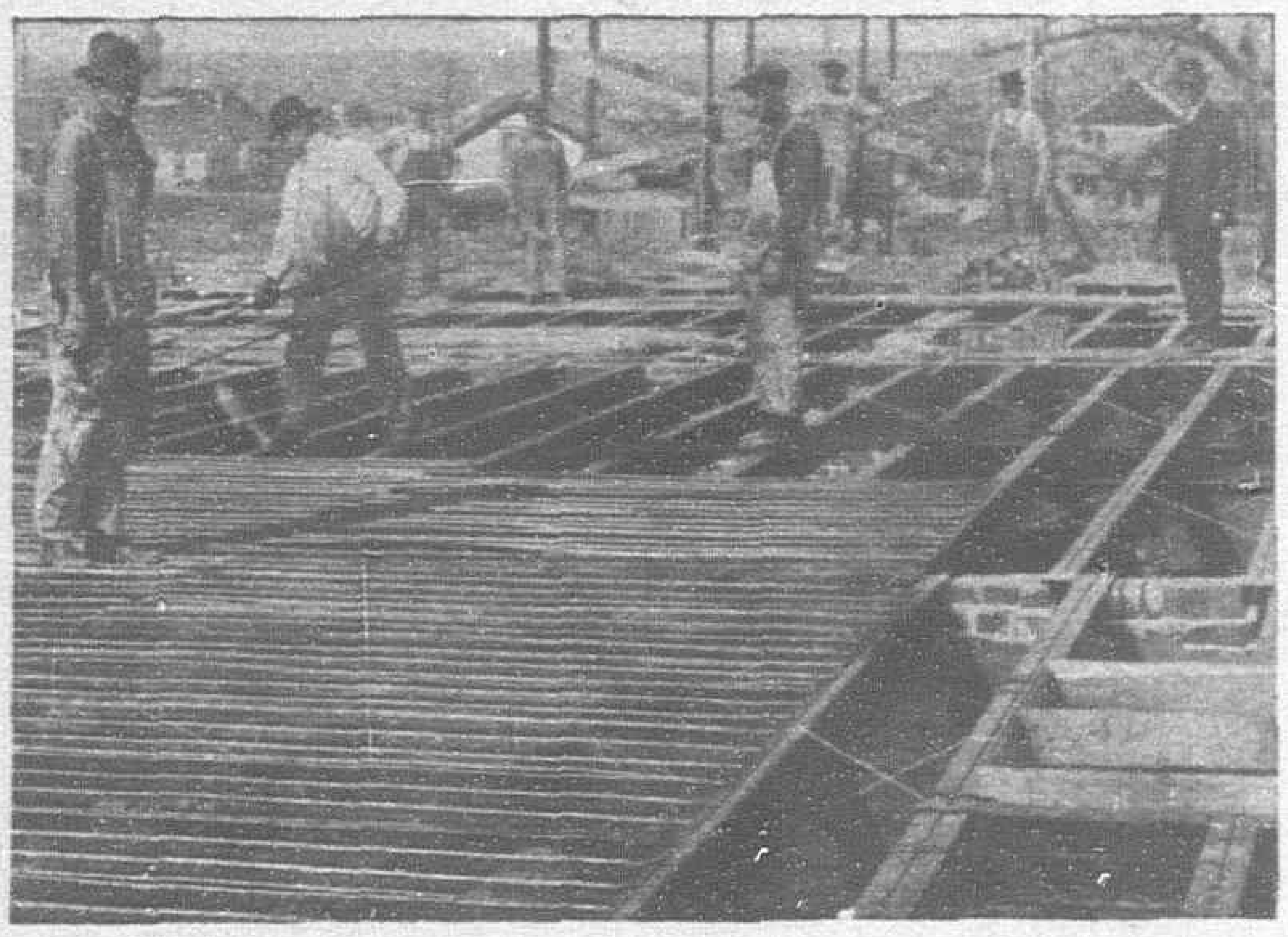

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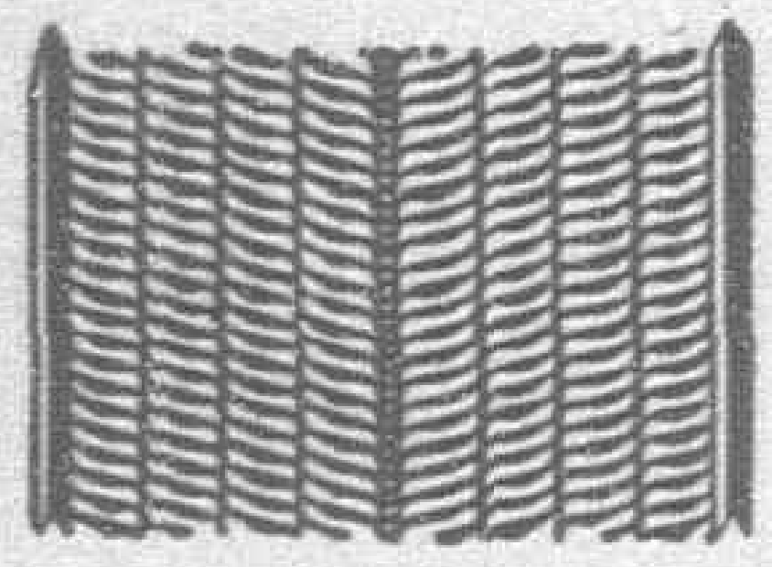

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